

Memorandum

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Date: October 19, 2000

Subject: Final Sixth Semiannual Progress Report - May 1, 1999 to April 30, 2000

Enclosed is the final sixth semiannual progress report prepared in accordance with the SFWMD/Seminole Tribe Agreement, Paragraph A.3. The report summarizes the water quality and flow data collected and the resulting total phosphorus load calculations for the period May 1, 1999 through April 30, 2000.

Please contact Tim Bechtel at 561-682-6392 or E-mail tbechtel@sfwmd.gov if you have any questions or suggestions regarding this report.

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the *lungs* are *normal* and *the heart* is *not* *enlarged*.

FINAL

Sixth Semiannual Progress Report

**Total Phosphorus Load Calculations for Sites
Stipulated in the SFWMD/Seminole Tribe Agreement**

For Period May 1, 1999 to April 30, 2000

By

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October 19, 2000

**Environmental Monitoring and Assessment Division
South Florida Water Management District
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Submitted to

SFWMD/ Seminole Tribe Agreement Working Group

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Table of Contents

	Page
List of Figures	ii
List of Tables	iv
Introduction	1
Methods	2
Results of Phosphorus Load Calculations	2
Results of Flow Comparisons	38
Water Quality Data	43
Appendix I. Flow Chart for Water Flow and Water Quality Data Collected for the SFWMD/Seminole Cooperative Agreement.....	62
Appendix II. SFWMD/Seminole Agreement Sampling Station Names	64
Appendix III. Total Phosphorus (TP) Concentration Data for the Period from May 1,1999 through April 30, 2000	65

List of Figures

Figure		Page
1	SFWMD/Seminole Agreement Water Quality and Flow Sampling Sites	4
2a	L3BRS TP Load, Flow and TP Concentration	5
2b	Relationship between L3BRS Flow and TP Concentration for WY97 through WY00	6
3a	USSO TP Load, Flow and TP Concentration	7
3b	Relationship between USSO Flow and TP Concentration for WY97 through WY00	8
4a	L28U TP Load, Flow and TP Concentration	9
4b	Relationship between L28U Flow and TP Concentration for WY98 through WY00	10
5a	S140 TP Load, Flow and TP Concentration	11
5b	Relationship between S140 Flow and TP Concentration for WY97 through WY00	12
6a	WWEIR TP Load, Flow and TP Concentration	13
6b	Relationship between WWEIR Flow and TP Concentration for WY98 through WY00	14
7a	NFEED TP Load, Flow and TP Concentration	15
7b	Relationship between NFEED Flow and TP Concentration for WY97 through WY00	16
8a	S190 TP Load, Flow and TP Concentration	17
8b	Relationship between S190 Flow and TP Concentration for WY97 through WY00	18
9a	L28IN TP Load, Flow and TP Concentration	19
9b	Relationship between L28IN Flow and TP Concentration for WY98 through WY00	20
10a	L28IS TP Load, Flow and TP Concentration	21
10b	Relationship between L28IS Flow and TP Concentration for WY98 through WY00	22
11	Comparison of WWEIR, NFEED and S190 Flows	39
12	Comparison of L28IN and L28IS Flows with S190 Flow	40

13	Relationship between L28IN Flow and L28IS Flow	41
14	Comparison of L28U Flow with G89DS and USSO Flow	42
15	Comparison of TP Concentrations and Median Values	60
16	Comparison of TN Concentrations and Median Values	61

List of Tables

Table		Page
1	Total Phosphorus (TP) Concentration and Water Flow Data Summary from May 1, 1999 through April 30, 2000	23
2	Total Phosphorus (TP) Load and FWMC Calculation Summary	32
3	(TP) Load Calculation Monthly Summary by Station	34
4	Summary of Total Phosphorus Loads and Flows, Water Year 1996 – 2000	37
5	Summary of Water Quality Parameters Collected at L3BRS from May 1, 1997 through April 30, 2000	44
6	Summary of Water Quality Parameters Collected at USSO from May 1, 1997 through April 30, 2000	46
7	Summary of Water Quality Parameters Collected at L28U from August 1, 1997 through April 30, 2000	48
8	Summary of Water Quality Parameters Collected at S140 from May 1, 1997 through April 30, 2000	50
9	Summary of Water Quality Parameters Collected at WWEIR from October 1, 1997 through April 30, 2000	52
10	Summary of Water Quality Parameters Collected at NFEED from May 1, 1997 through April 30, 2000	53
11	Summary of Water Quality Parameters Collected at S190 from May 1, 1997 through April 30, 2000	54
12	Summary of Water Quality Parameters Collected at L28IN from August 1, 1997 through April 30, 2000	56
13	Summary of Water Quality Parameters Collected at L28IS from March 1, 1998 through October 30, 1999	58
14	Trace Metal Concentrations above the Method Detection Limit Compared With Class III Standards from May 1, 1997 through April 30, 2000	59

Introduction

The Agreement between the South Florida Water Management District (the District) and the Seminole Tribe of Florida (the Seminole Tribe), executed on January 17, 1996, required periodic monitoring of the quality of surface water entering, originating on and leaving the Big Cypress Seminole Indian Reservation (the Reservation). The results of the monitoring were to ensure compliance with applicable water quality standards imposed by law and that the overall surface water quality within the Reservation was not adversely impacted.

Pursuant to the Agreement, the District, with the cooperation of the Seminole Tribe, initiated a water quality monitoring program in June 1996. To help the SFWMD/Seminole Agreement Working Group track the results and progress of this monitoring effort, the District has been preparing semiannual reports that summarize and analyze the water quality and flow data collected since the implementation of the program.

The following six sites are monitored by the District: North Feeder Canal (**NFEED**), West Feeder Canal (**WWEIR**), S190 Spillway (**S190**), L3 Canal Sampling Station (**L3BRS/USL3BRS**), U.S. Sugar Outfall (**USSO**) from the C-139 Annex, and the S140 Pump Station Complex (**S140**). Two sites monitored by the Seminole Tribe are the L28 Interceptor Canal North (**L28IN**) and L28 Canal Upstream (**L28U**). The Seminole Tribe began their water quality and nutrient data collection at these sites on August 21, 1997. The United States Geological Survey (USGS) began collecting flow data at L28IN, L28U and L28 Interceptor Canal South (**L28IS**) sites March 1, 1997. The USGS discontinued measuring flow at L28IS September 30, 1999 as the result of the Miccosukee Tribe selecting Florida International University to conduct their monitoring program. The Miccosukee Tribe collected water quality data at L28IS from March 13, 1998 through October 29, 1999.

This sixth progress report includes data from May 1, 1999 through April 30, 2000 (Water Year 00). The results of TP load calculations for both autosample and grab sample data sites are presented. In addition, flows are compared between the following sites:

- 1) WWEIR + NFEED with S190
- 2) L28IN and L28IS (through Sep. 30, 1999) with S190
- 3) L28IN and L28IS (through Sep. 30, 1999)
- 4) L28U with G89DS (a SFWMD UVM site) and USSO.

Water quality data collected from May 1, 1997 through April 30, 2000 are summarized for each of the monitoring sites. For Water Year 2000, dissolved oxygen concentrations less than the 5.0 mg/L criterion were measured periodically at all sites. This condition is typical of South Florida canals. The minimum pH criterion of 6.0 pH units was exceeded at WWEIR, NFEED and L28IN, while the maximum pH criterion of 8.5 pH units was exceeded at L28IN and L28U. Most trace metal measurements were below the method detection limit (MDL). One cadmium sample at L28IN exceeded the Class III criterion.

Methods

Water quality sampling and flow measurement sites established for the Agreement are indicated in **Figure 1**. The NFEED, WWEIR, USSO, L3BRS/USL3BRS, S190 and S140 sites are maintained and sampled by the District. NFEED, USSO, and L3BRS/USL3BRS sites are equipped with ultrasonic velocity meters (UVMs) to measure flow and auto-samplers to collect flow-proportional water quality samples. The WWEIR site uses a weir equation to calculate flow and trigger an auto-sampler. Grab samples are also collected at the NFEED, WWEIR, USSO and L3BRS/USL3BRS sites to supplement the auto-sampler data. Flow through S190 and S140 is calculated using structure-specific equations. Since the beginning of this monitoring program, S190 and S140 water quality data were collected using grab sampling procedures. Autosamplers were installed at both structures in July 2000. Data from the autosamplers will improve the future estimation of total phosphorus loads through these structures. The sites at L28IN and L28U are equipped with UVMs installed and maintained by the USGS and auto-samplers supplied and operated by the Seminole Tribe. Initial discrepancies between grab and autosampler total phosphorus data collected at L28U and L28IN were resolved through a collaborative effort between USGS and Tribe personnel. On July 22, 1999 the autosampler intake orifice openings were modified to allow the intake to be properly purged between samples, resulting in much greater consistency between the grab and autosampler total phosphorus concentrations. The Miccosukee Tribe monitoring site at L28IS was equipped with a UVM supplied by the USGS and a Tribe-owned auto-sampler until the site was discontinued on September 30, 1999.

There have been ongoing problems measuring reliable flows at the North Feeder Canal site due to the unique circulation pattern described in previous reports. The addition of a second UVM at a shallower depth in April 1998 confirmed that surface and bottom waters in the North Feeder Canal flow in opposite directions, especially when the S190 gates are closed and wind stress is high. A decision was made in November 1998 by the Technical Core Group to monitor inflows at structures G108 and Culvert 17A to supplement flow measured at the NFEED site. Autosamplers owned and operated by McDaniel Family were located at both sites to collect flow-proportional samples. Initial problems with some culvert flow sensors at these sites have been resolved. During this reporting period no samples were collected at these structures due to the sensor problem and the lack of discharges during the dry season. The NFEED UVM site will remain operational until the flow data collected at G108 and Culvert 17A are considered to be reliable.

Results of Phosphorus Load Calculations

Water Year 2000 was unusual in that both the wet and dry seasons were extreme. Rainfall in May 1999 was 79 percent of the monthly historical average. The wet season, beginning in June and lasting through October, was the second wettest since 1960 with 43.09 inches of rain, or 131 percent of the historic average. Hurricane Irene contributed almost six inches of rain in just over one day (October 14 and 15), which created the

highest monthly flow for the entire water year. Conversely, beginning in November 1999, the dry season produced five straight months of low rainfall, ranging from 29 percent to 67 percent of the historical monthly averages. This period of dry months ended in April 2000 with five continuous days of rain that averaged 3.09 inches, or 134 percent of the monthly historic average. The overall dry season rainfall from November through April was 9.50 inches, which was 67 percent of the historic average.

The analysis of measured flows and calculated total phosphorus loads are presented in **Tables 1** and **2**. These data were used to create the total phosphorus load graph for each site.

The total phosphorus load graph for each site (**Figures 2 through 9**) summarizes:

- 1) daily mean flows, expressed in cubic feet per second (cfs),
- 2) individual TP concentrations in parts per billion (ppb) from auto and grab samples, and
- 3) the resulting calculated daily TP loads in kilograms (kg) from May 1,1999 through April 30, 2000.

Note that the same scales for flows, TP concentrations and TP loads are used in all figures, except for L3BRS, to make comparisons easy. Individual monthly flows, TP loads and TP flow-weighted mean concentrations for each site can be found in **Table 3**.

The sites established for this monitoring program are located in the North and West Feeder Canals, the L-28 Interceptor Canal and the L-28 Canal (**Table 4**). Sites within each canal system should have the following total phosphorus load relationships based on the hydrologic connections between the sites:

- 1) The sum of the loads calculated from grab samples in the West Feeder and North Feeder Canals should be close to the load passing through the S190 structure. For this reporting period the WWEIR + NFEED grab sample load was 8786 kg compared to the S190 grab sample load 13,246 kg. Problems in estimating the net flow from the North Feeder Canal and the existence of several unmonitored drainage ditches upstream of S190 may be contributing to the large difference between the observed TP loads.
- 2) The TP loads at L28IN and L28IS should be similar to the S190 load because there are no inflow points along the L28 Interceptor Canal between S190 and L28IS. For this reporting period, a load of 11,153 kg was calculated from grab samples at L28IN. The comparable load at S190 was 13246 kg. From May through September 1999 the TP load at L28IS was 4046 kg. No annual load could be calculated since the site was discontinued September 30, 1999.
- 3) The load between USSO, L28U and S140 should increase during wet periods due to discharges into the L28 Canal from drainage ditches along the southern and western banks of the canal. For this reporting period, the USSO grab sample load was 7404 kg compared to the L28U and S140 grab sample loads of 12,980 and 15,533 kg, respectively.

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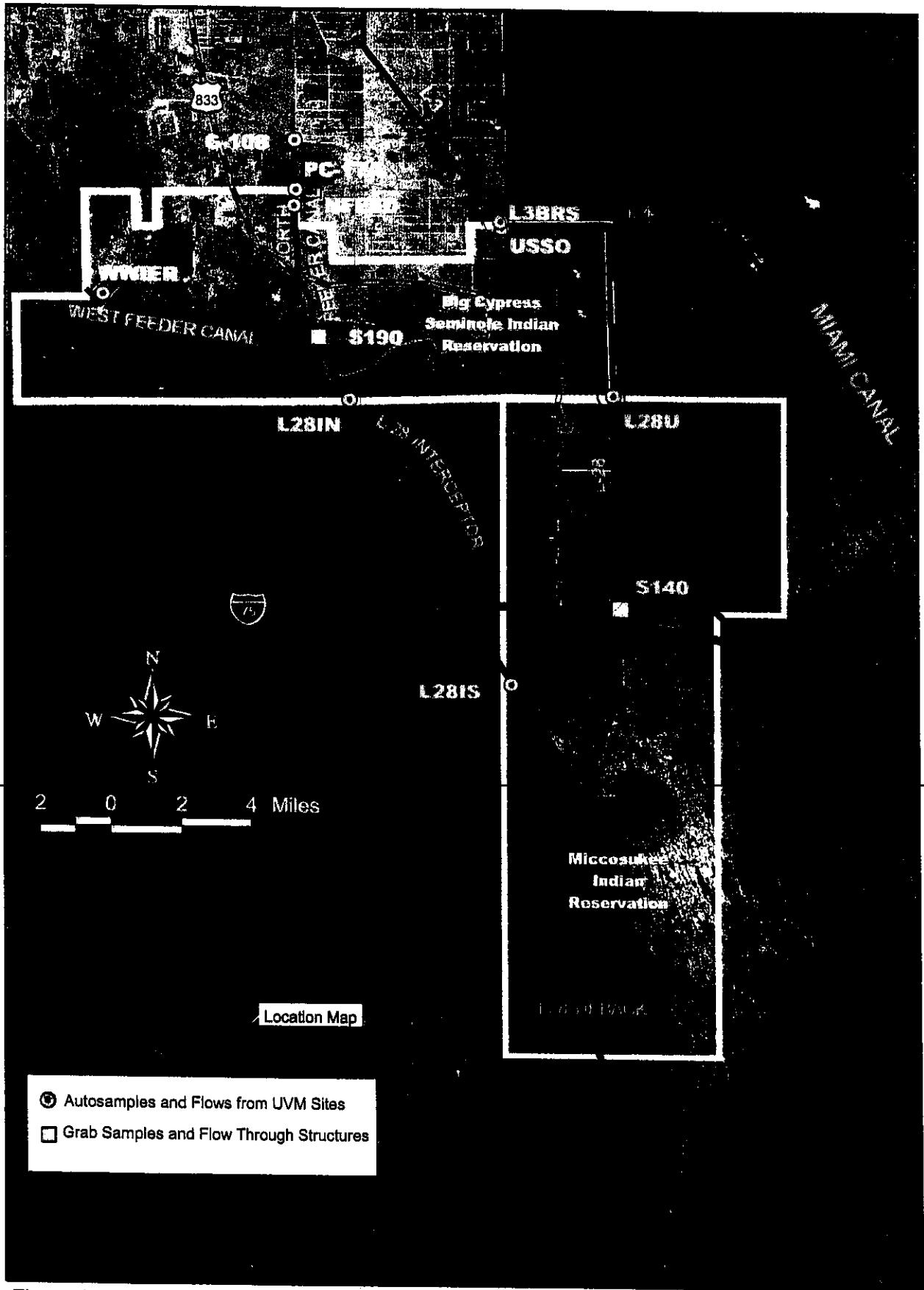


Figure 1. SFWMD/Seminole Agreement Water Quality and Flow Sampling Sites.

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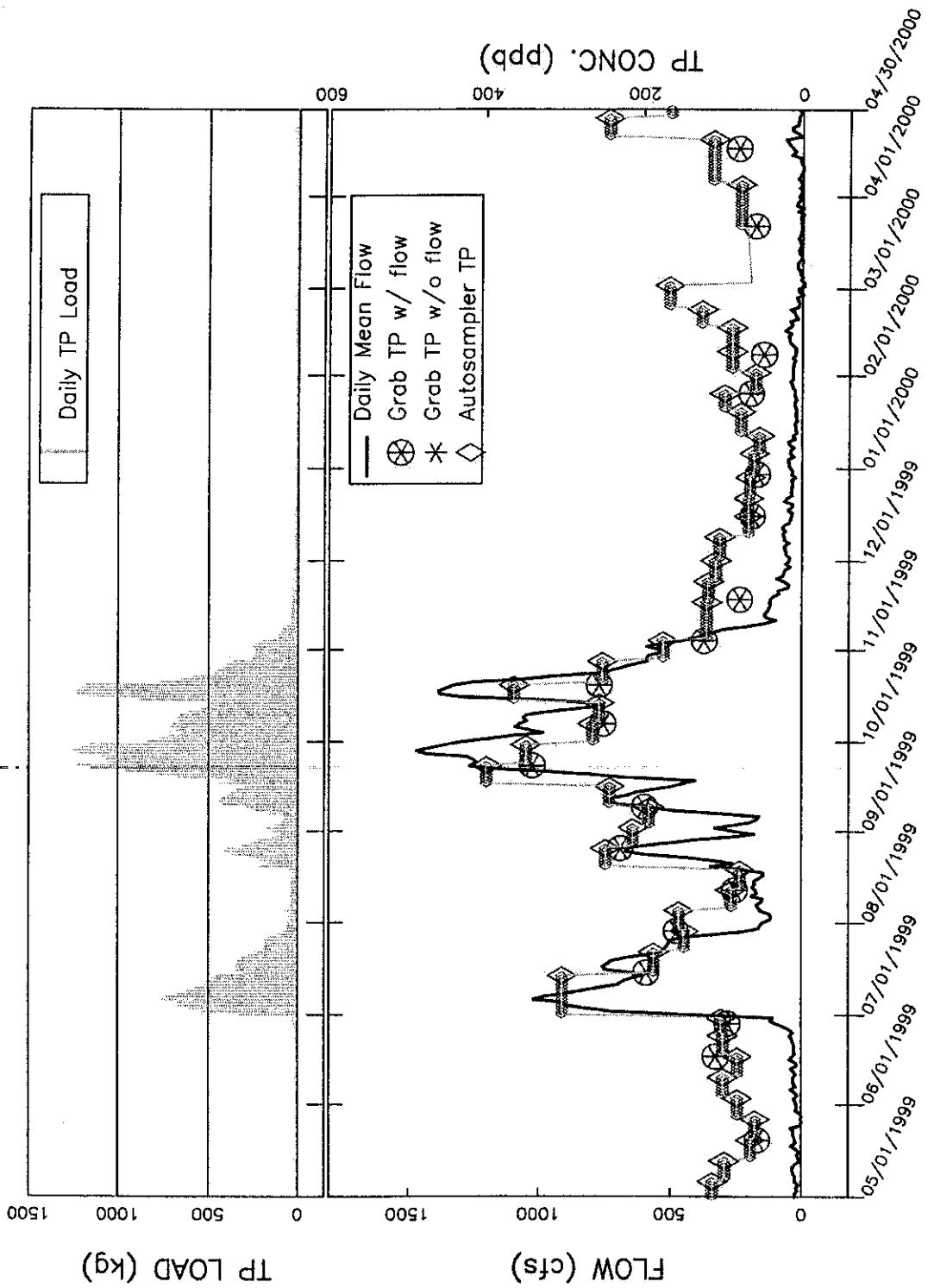


Figure 2a. Flow, Total Phosphorus (TP) Concentration and TP Load for L3BRS.

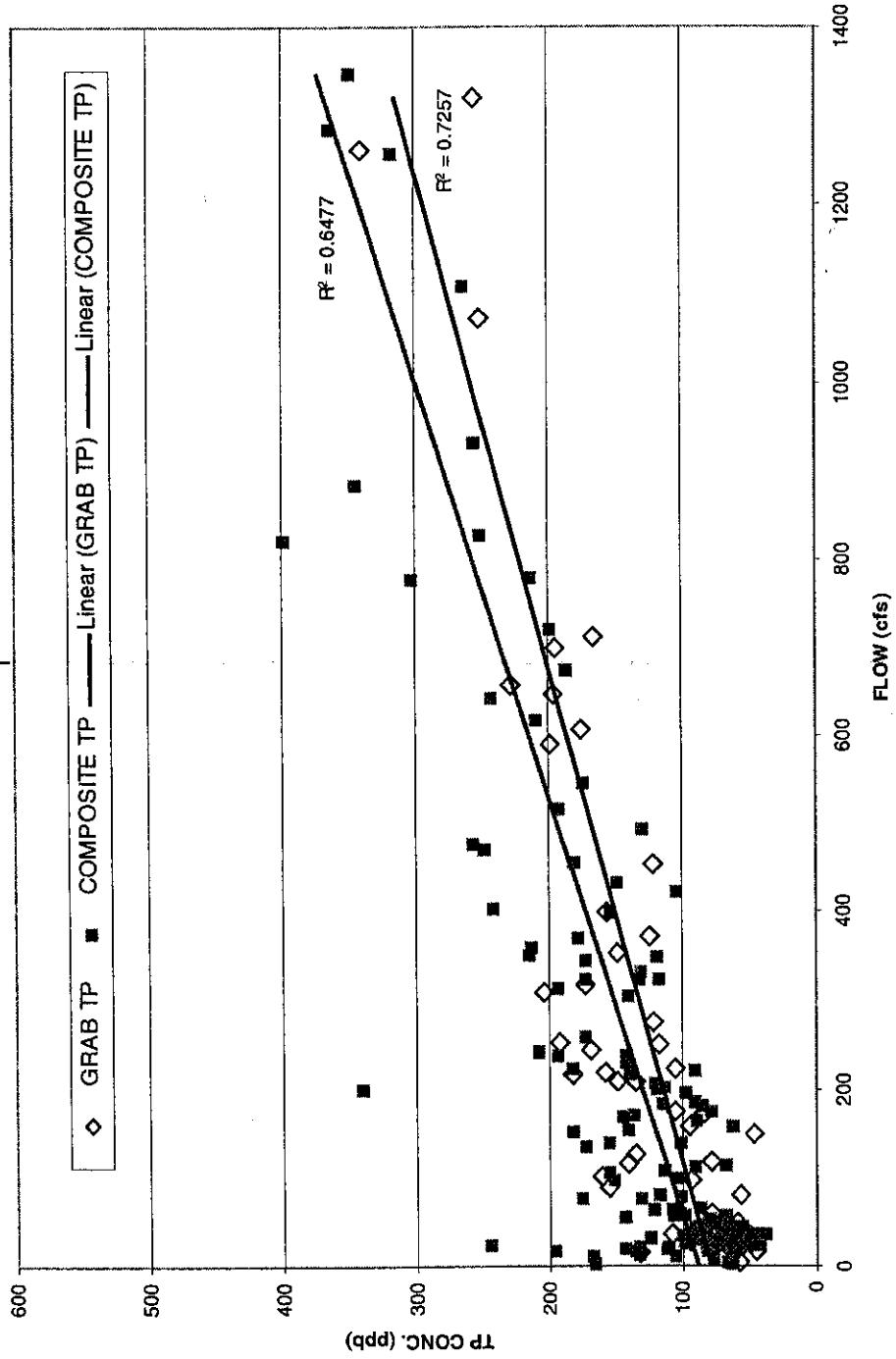


Figure 2b. Relationship between Flow and Total Phosphorus (TP) Concentrations for L3BRS.

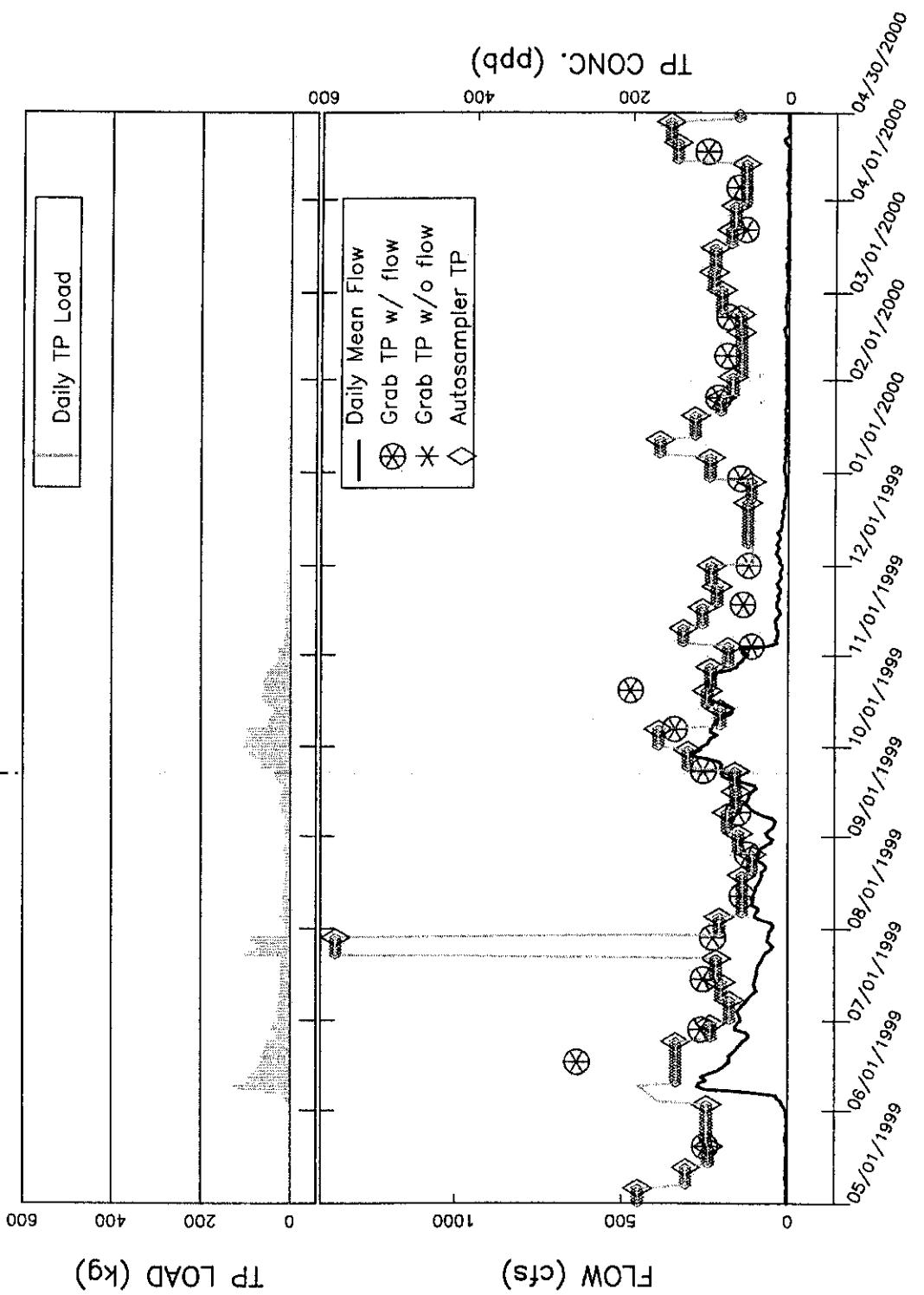


Figure 3a. Flow, Total Phosphorus (TP) Concentration and TP Load for USSO.

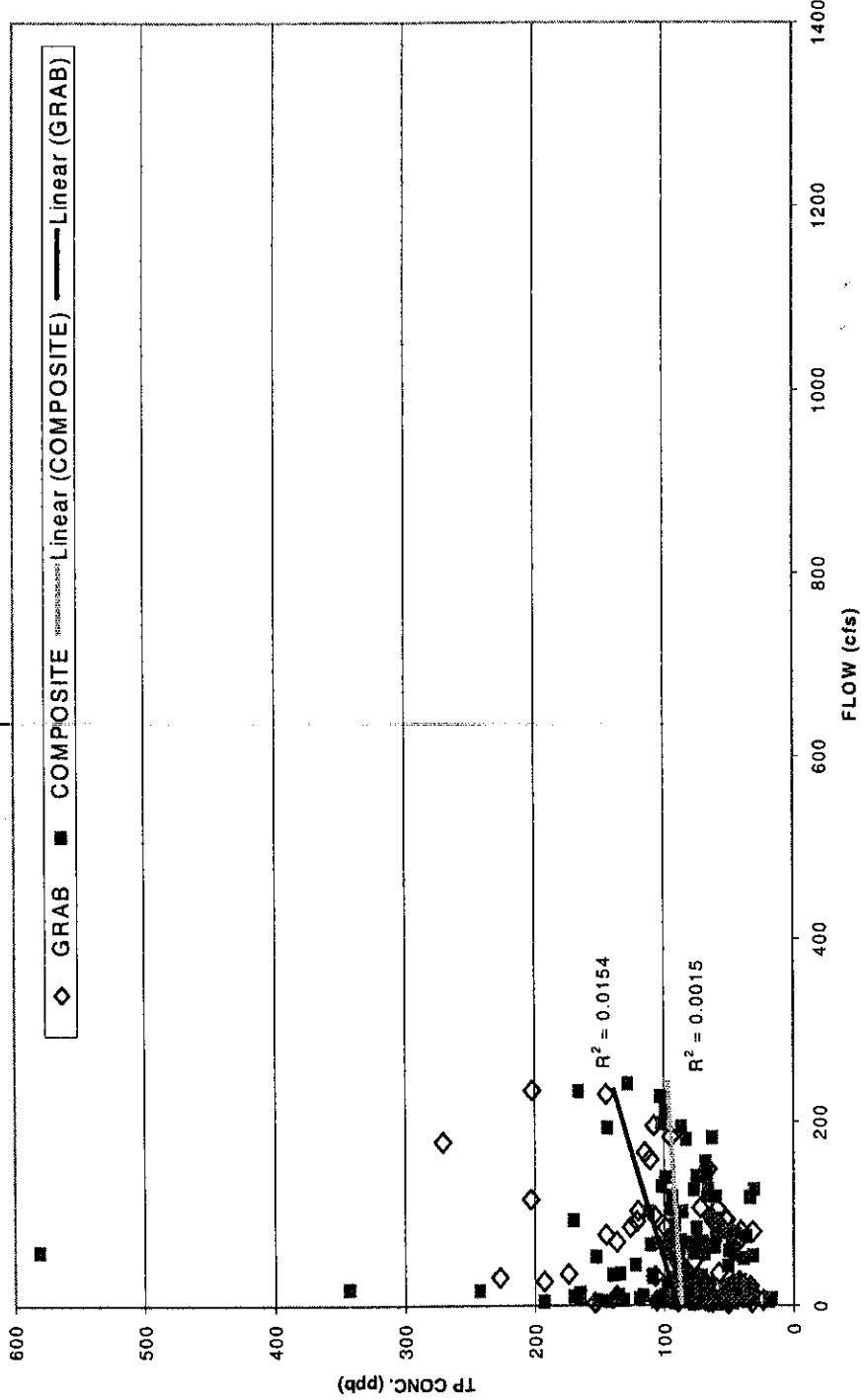


Figure 3b. Relationship between Flow and Total Phosphorus (TP) Concentrations for USSO.

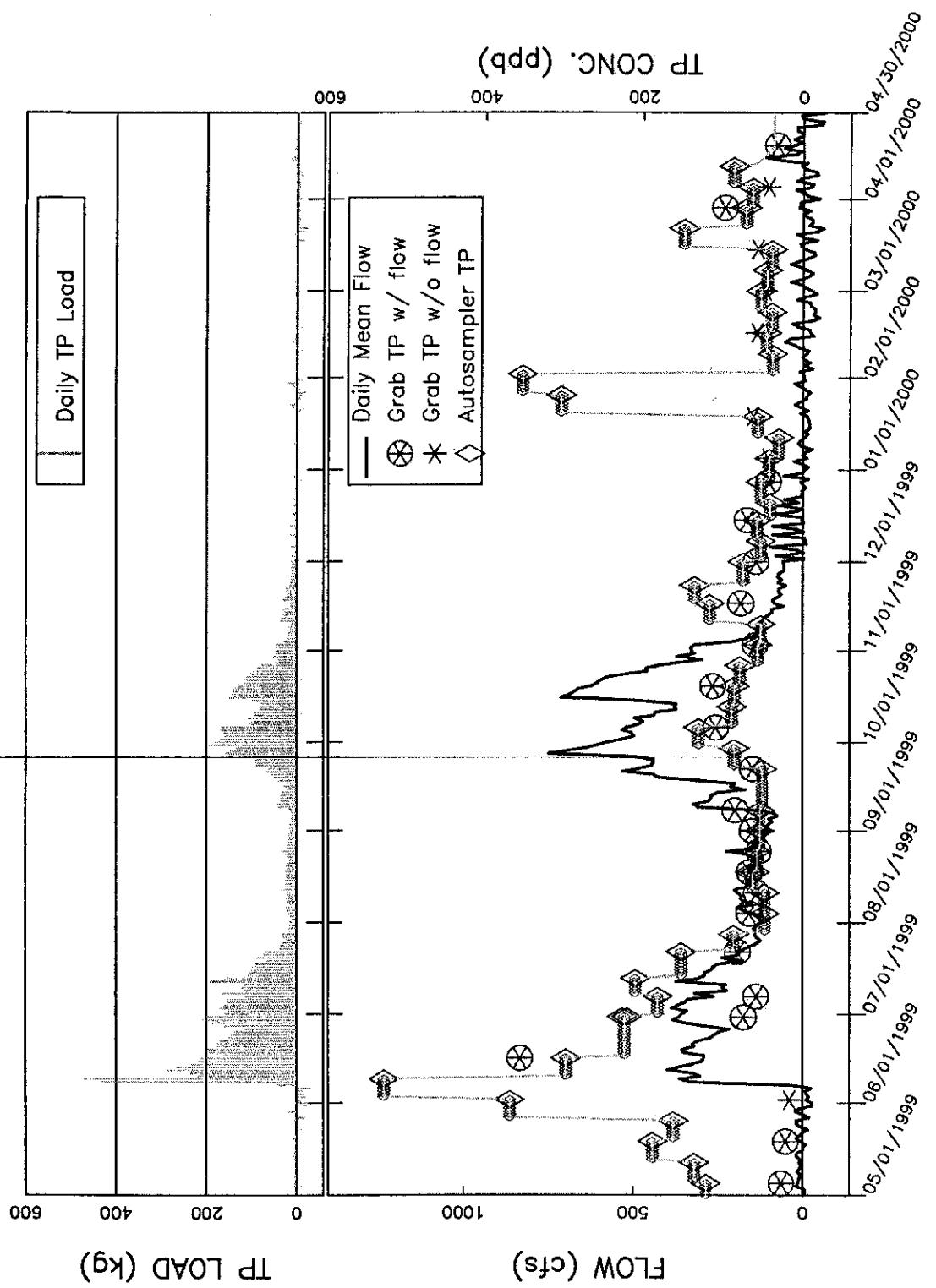


Figure 4a. Flow, Total Phosphorus (TP) Concentration and TP Load for L28U.

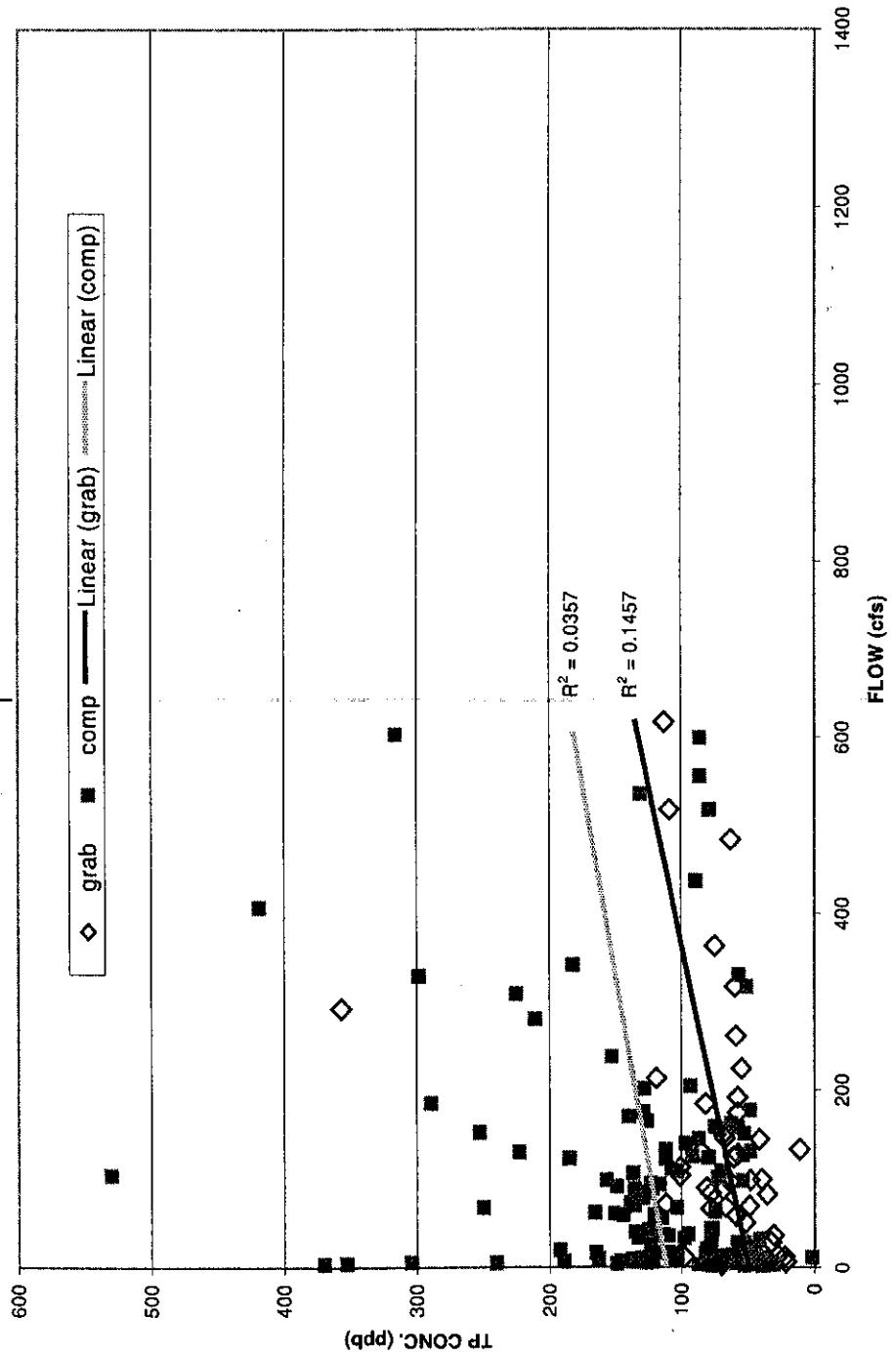


Figure 4b. Relationship between Flow and Total Phosphorus (TP) Concentrations for L28U.

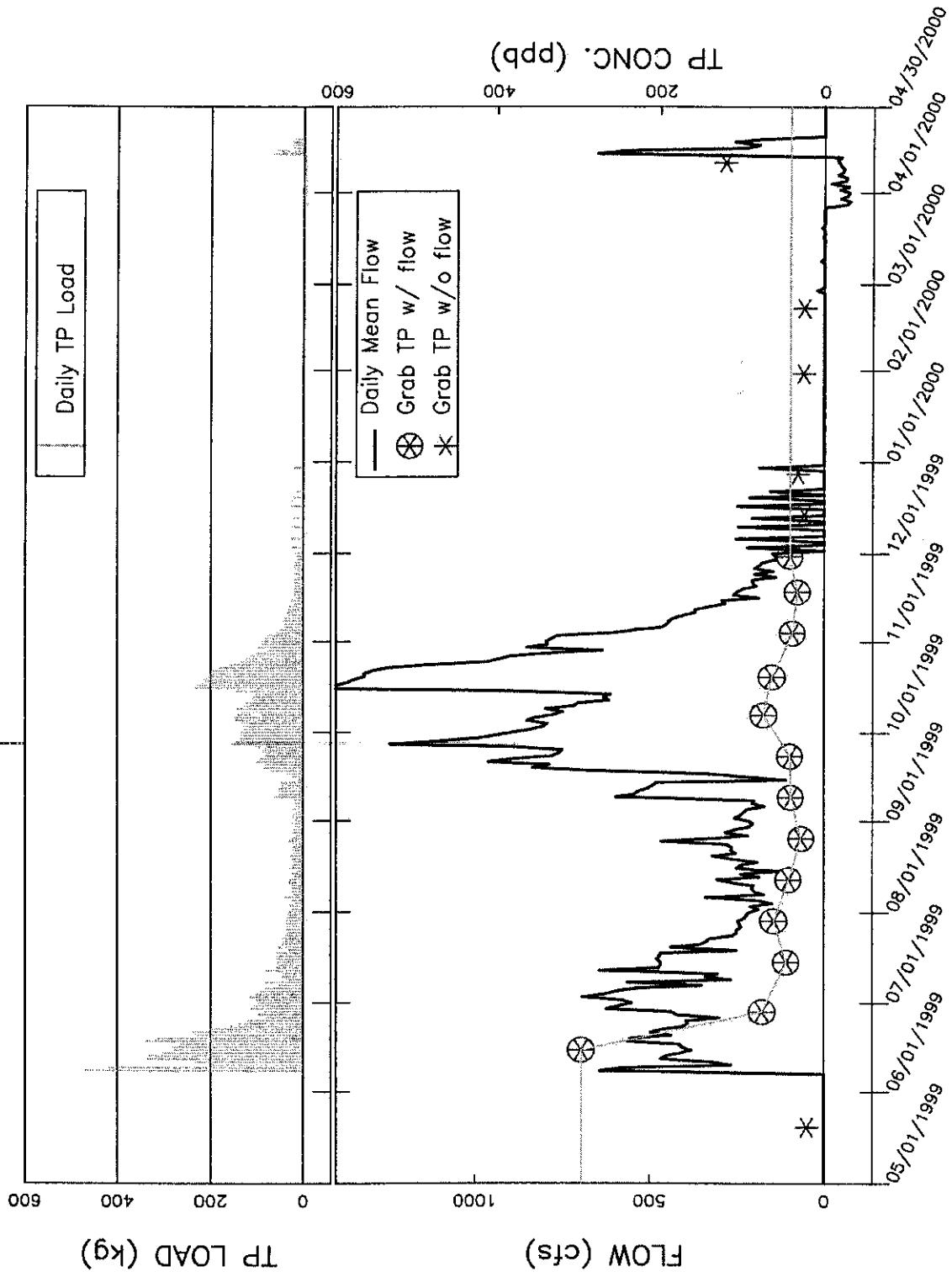


Figure 5a. Flow, Total Phosphorus (TP) Concentration and TP Load for S140.

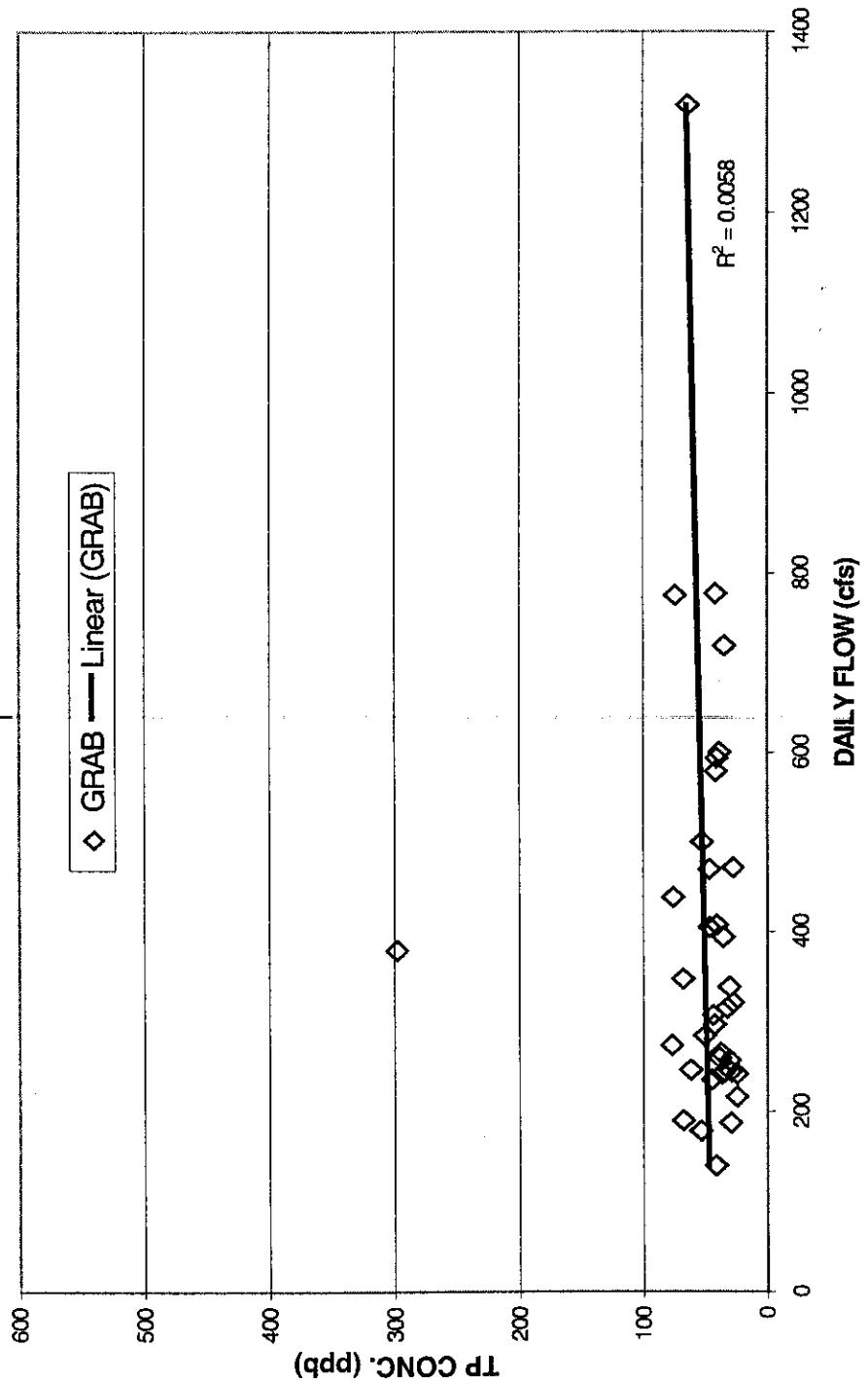


Figure 5b. Relationship between Flow and Total Phosphorus (TP) Concentrations for S140.

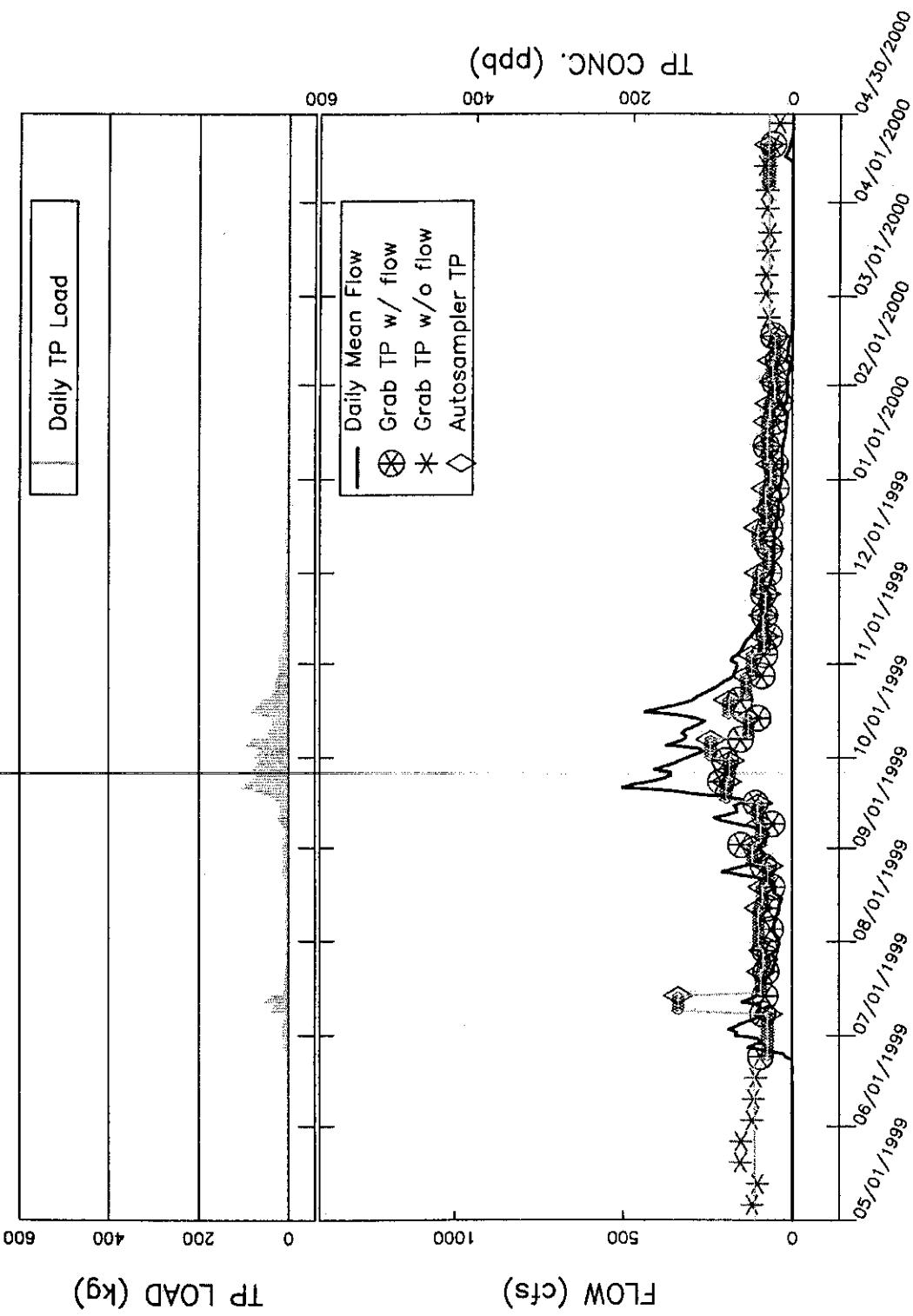


Figure 6a. Flow, Total Phosphorus (TP) Concentration and TP Load for WWEIR.

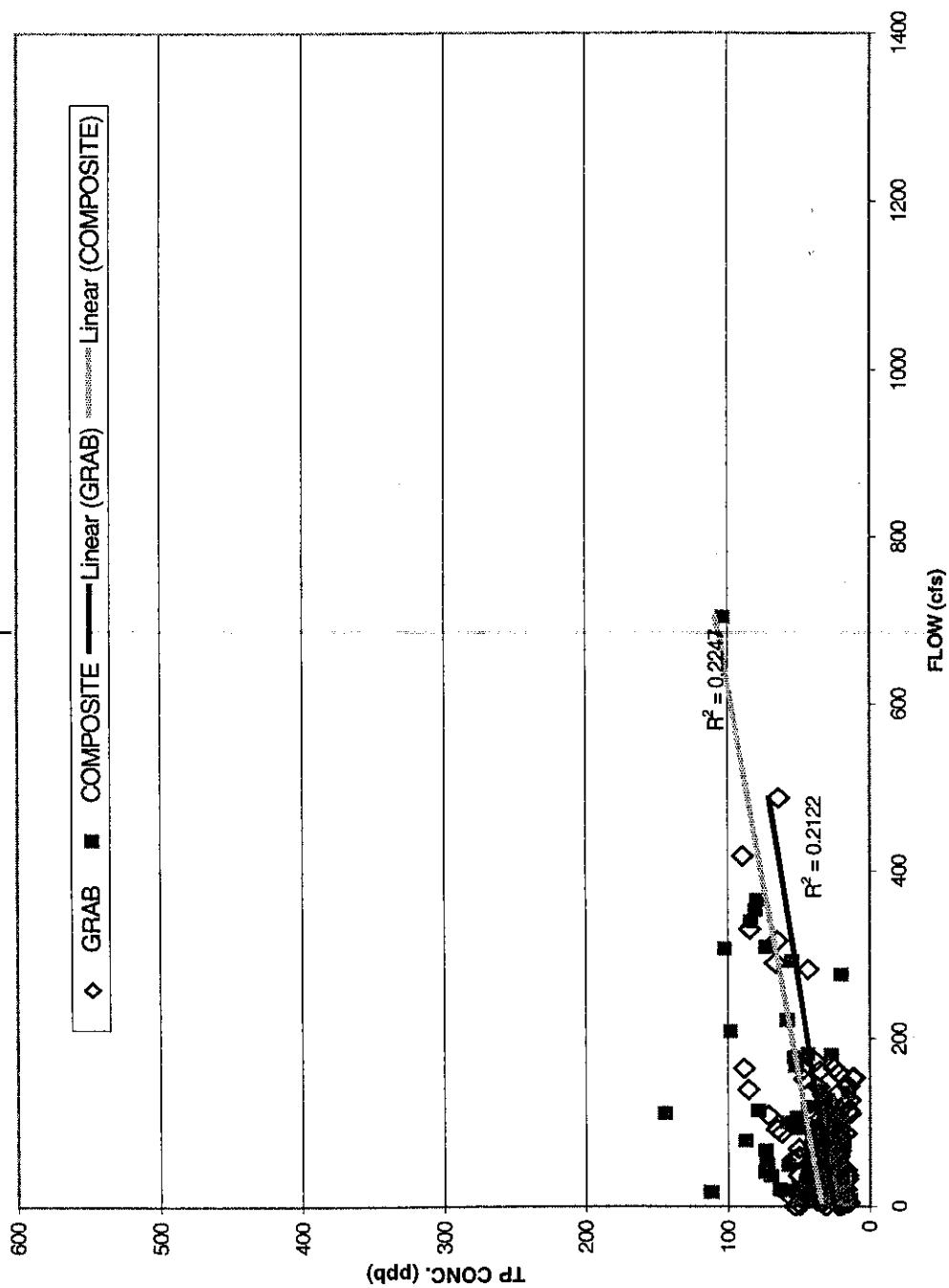


Figure 6b. Relationship between Flow and Total Phosphorus (TP) Concentrations for WWEIFR.

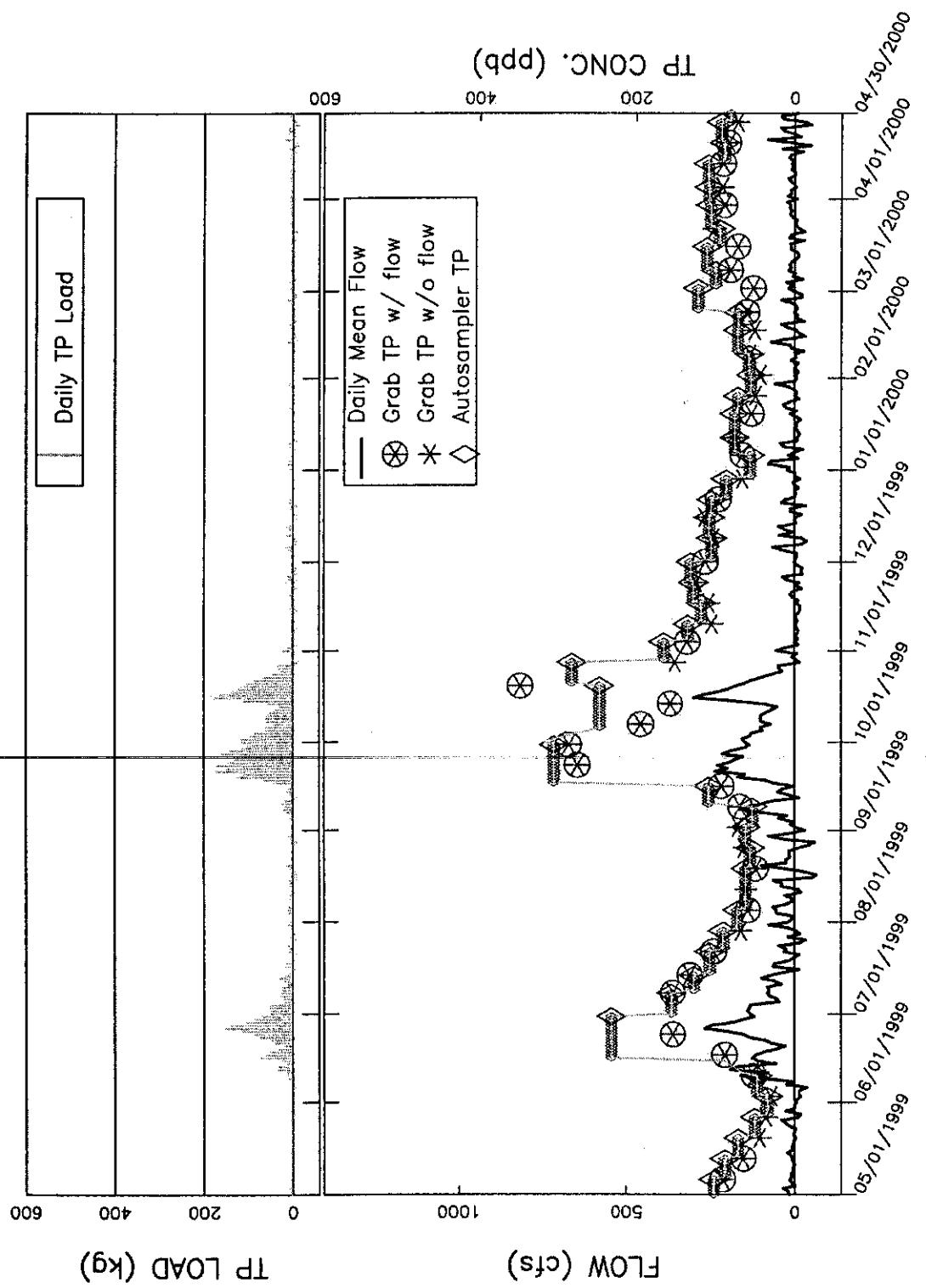


Figure 7a. Flow, Total Phosphorus (TP) Concentration and TP Load for NFEED.

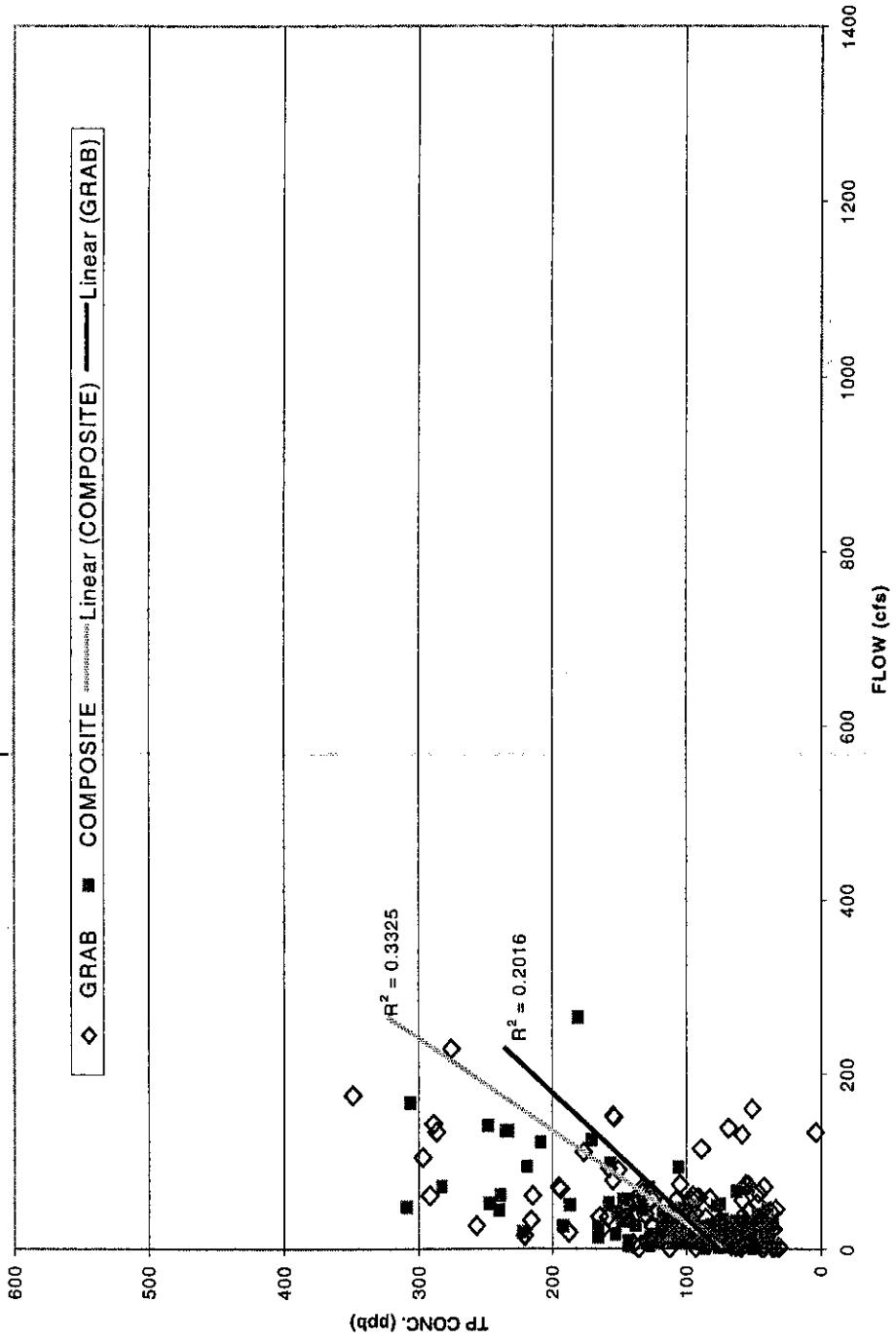


Figure 7b. Relationship between Flow and Total Phosphorus (TP) Concentrations for NFEED.

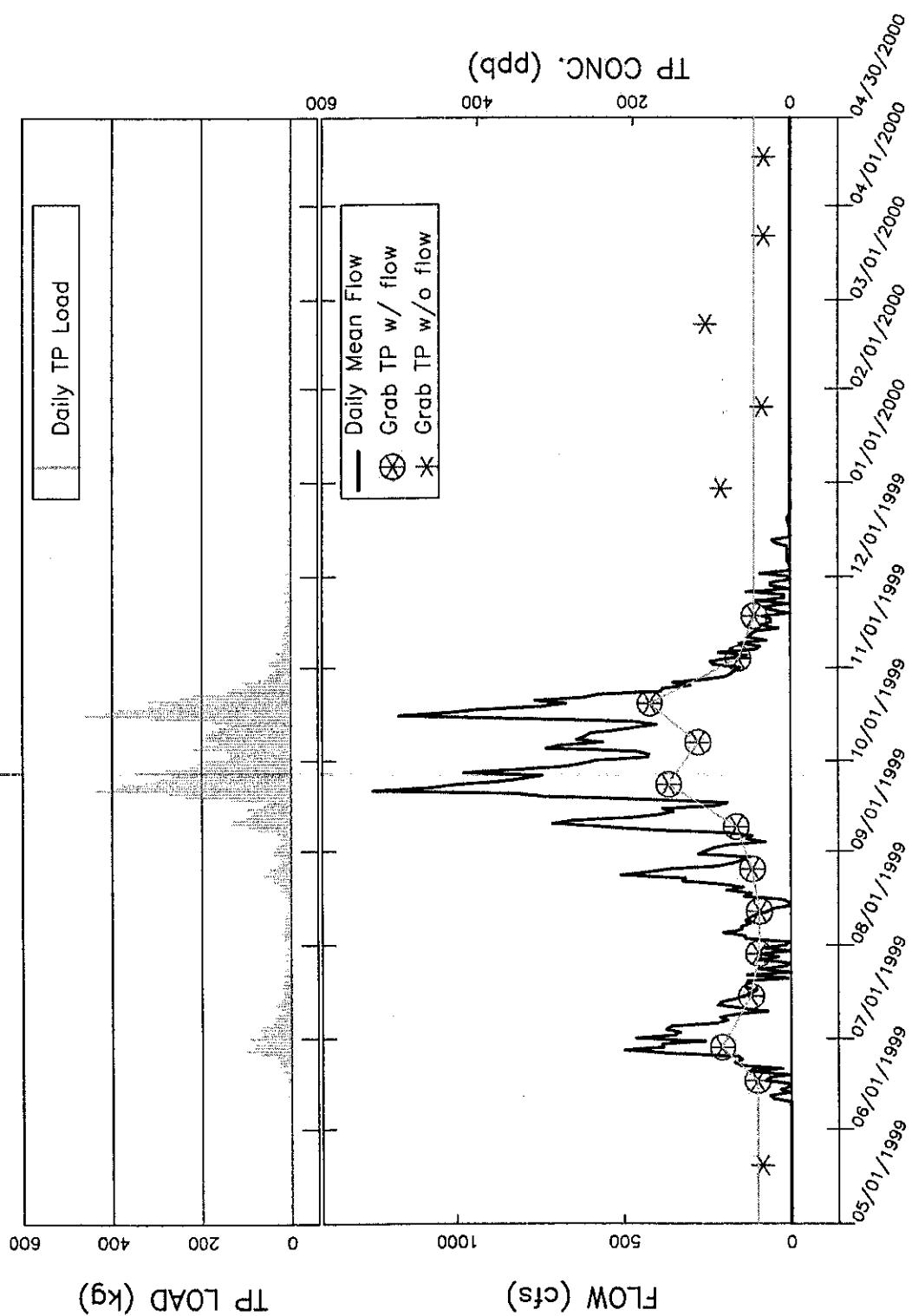


Figure 8a. Flow, Total Phosphorus (TP) Concentration and TP Load for S190.

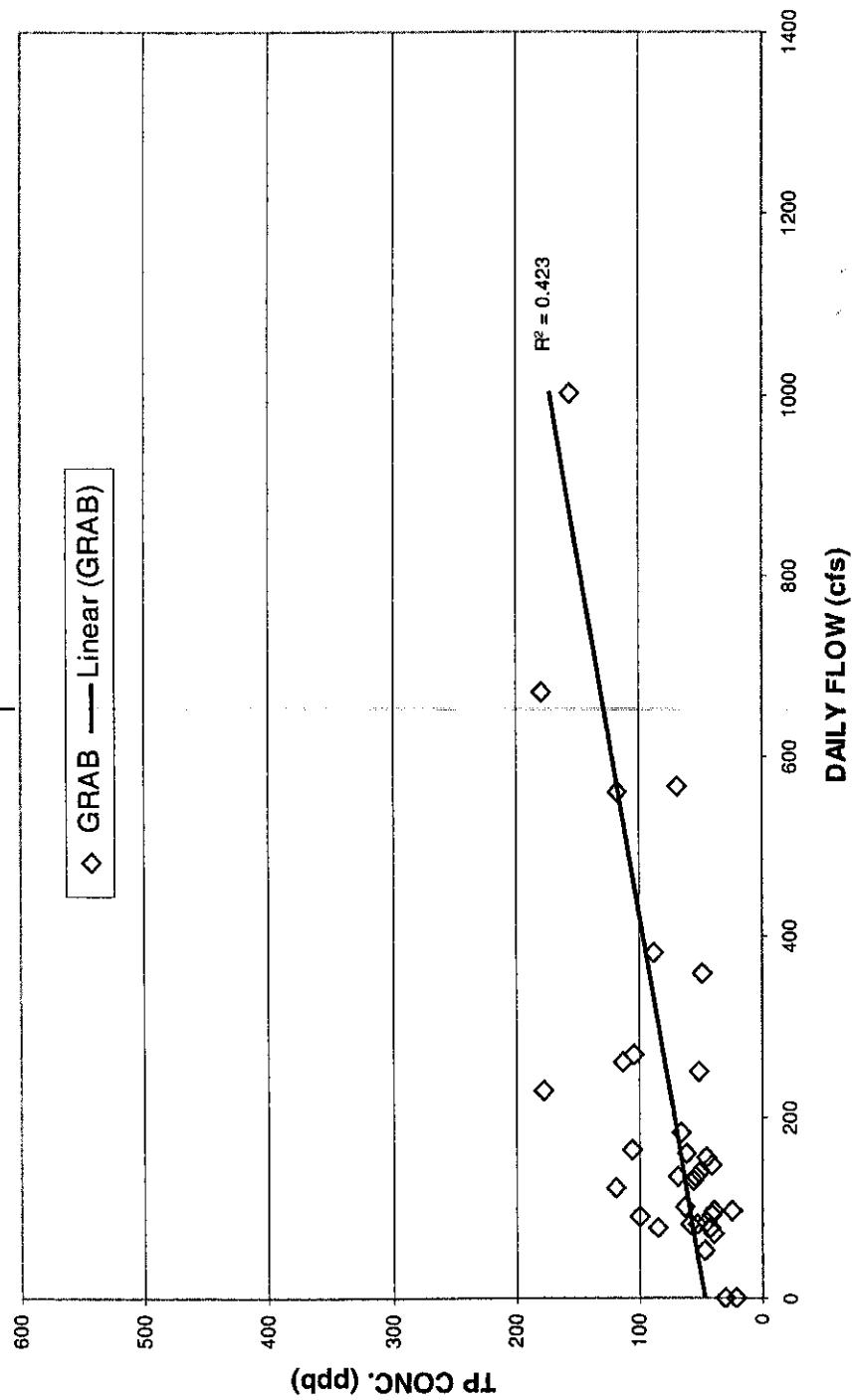


Figure 8b. Relationship between Flow and Total Phosphorus (TP) Concentrations for S190.

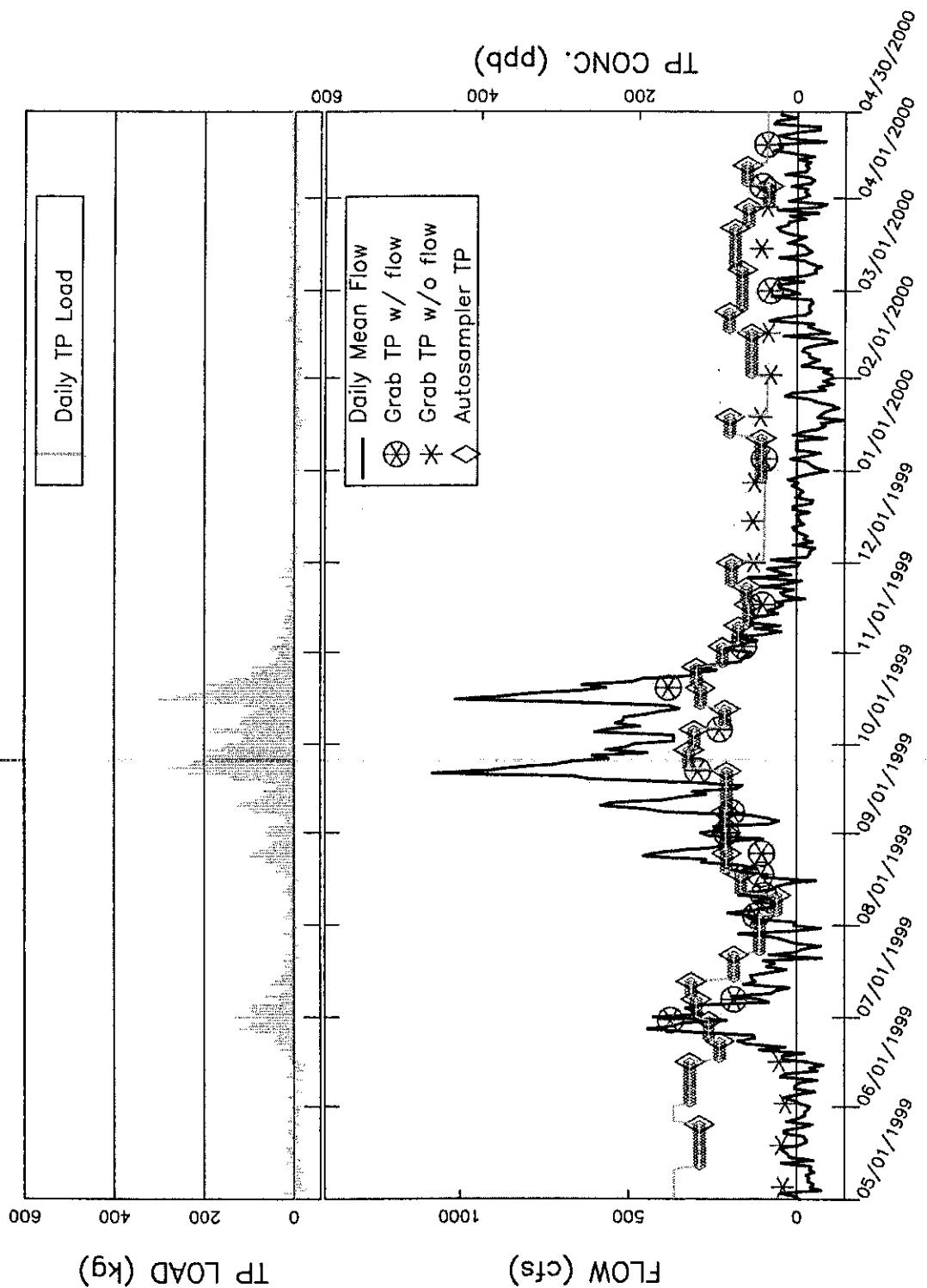


Figure 9a. Flow, Total Phosphorus (TP) Concentration and TP Load for L28IN.

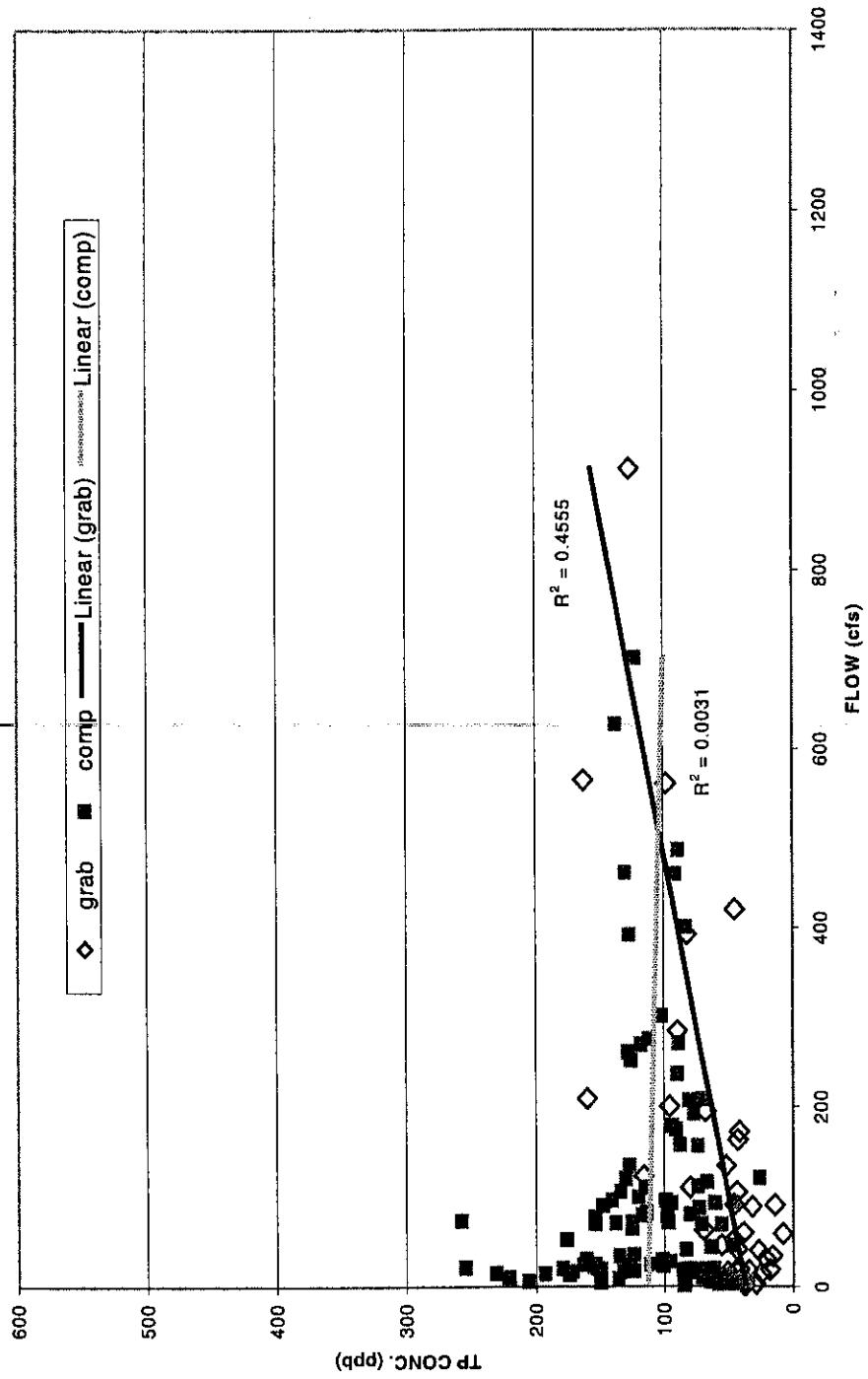


Figure 9b. Relationship between Flow and Total Phosphorus (TP) Concentrations for L28IN.

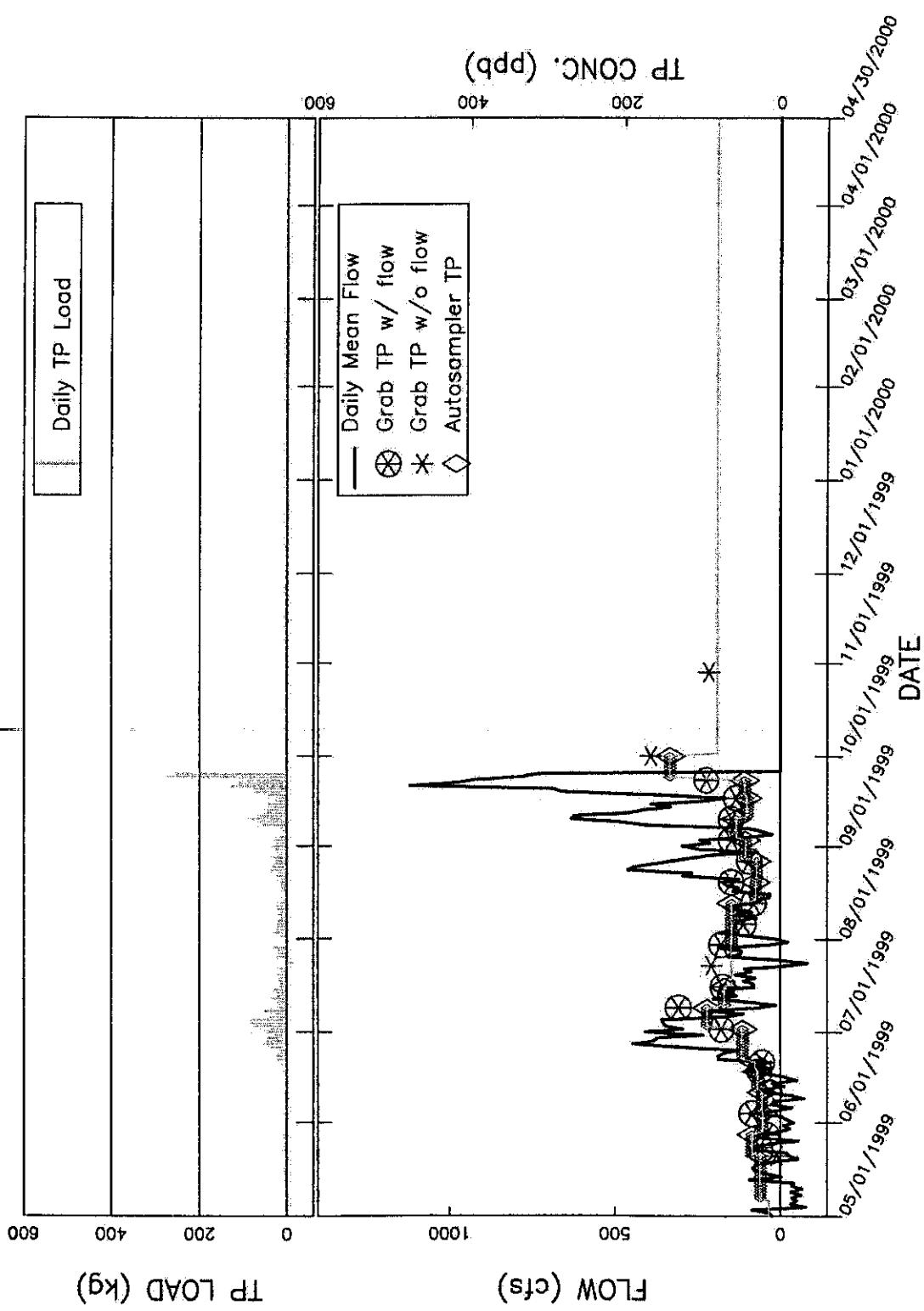


Figure 10a. Flow, Total Phosphorus (TP) Concentration and TP Load for L28IS.

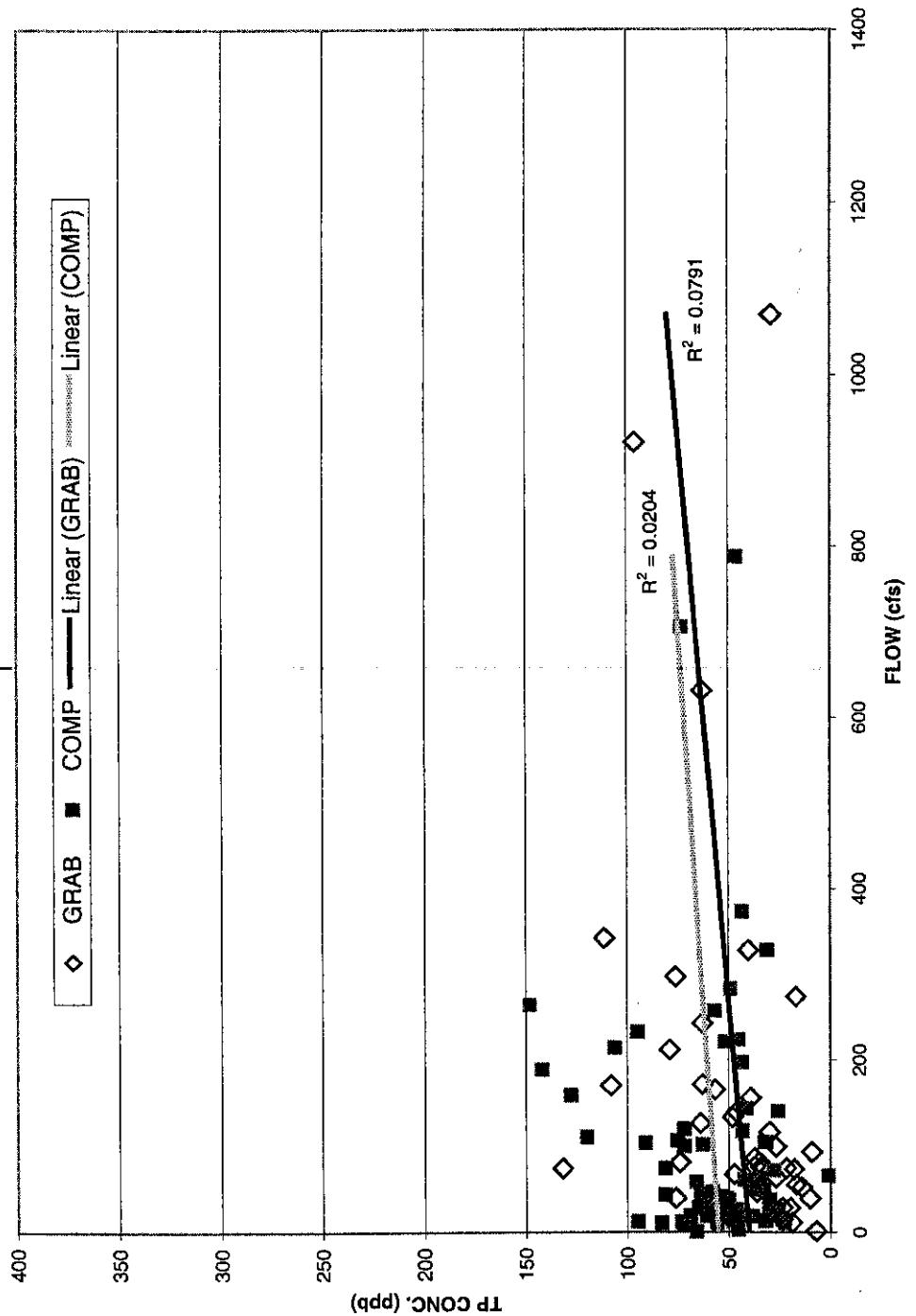


Figure 10b. Relationship between Flow and Total Phosphorus (TP) Concentrations for L28IS.

Table 1. Seminole/SFWMD Agreement total phosphorus (TP) data and water flow data summary for the period of May 1, 1999 through April 30, 2000.

For L3BRS/USL3BRS:

Term	c _{lab}	g _{lab}	q _{lab}	dbkey	iymdcomp
L3BRS	USL3BRS	L3BRS	L3BRS_O	16245	19841030

Grab sample n = 19
 first datum : 1999/05/20
 last datum : 2000/04/17
 average value (arithmetic mean) = 134 ppb
 range = 48 to 341 ppb

Grab sample with positive flow = 19
 first datum : 1999/05/20
 last datum : 2000/04/17
 average value (arithmetic mean) = 134 ppb
 range = 48 to 341 ppb
 flow weighted mean for data = 230 ppb
 regression: TP conc (ppb) = 66.7667 + 0.1856 * Flow (cfs)

Autosampler (flow proportional composite) n = 46
 first datum : 1999/05/06
 last datum : 2000/05/11
 average value (arithmetic mean) = 147 ppb
 range = 53 to 399 ppb
 flow weighted mean for data = 254 ppb
 regression: TP conc (ppb) = 91.8703 + 0.2088 * Flow (cfs)
 load ratio of comp:grab
 for data = 1.16838 (common days = 19)
 load model = 1.19350 (common days = 339)

Flow data from 1999/05/01 to 2000/04/30
 number of no flow days = 0
 number of positive flow days = 356
 total positive flow = 92318.64 cfs-d
 number of reverse flow days = 10
 total negative (reverse) flow = -24.11 cfs-d
 number of missing flow data: 0

Table 1. (continued).

For USSO:

Term	clab	glab	qlab	dbkey	iymdcomp
usso	usso	usso	usso_o	16749	19961231

Grab sample n = 21
first datum : 1999/05/20
last datum : 2000/04/17
average value (arithmetic mean) = 96 ppb
range = 47 to 271 ppb

Grab sample with positive flow = 21
first datum : 1999/05/20
last datum : 2000/04/17
average value (arithmetic mean) = 96 ppb
range = 47 to 271 ppb
flow weighted mean for data = 131 ppb
regression: TP conc (ppb) = 62.0849 + 0.4425 * Flow (cfs)

Autosampler (flow proportional composite) n = 45
first datum : 1999/05/06
last datum : 2000/05/11
average value (arithmetic mean) = 106 ppb
range = 46 to 581 ppb
flow weighted mean for data = 109 ppb
regression: TP conc (ppb) = 103.6083 + 0.0377 * Flow (cfs)
load ratio of comp:grab
for data = 0.910806 (common days = 21)
load model = 0.858751 (common days = 353)

Flow data from 1999/05/01 to 2000/04/30
number of no flow days = 0
number of positive flow days = 365
total positive flow = 23375.72 cfs-d
number of reverse flow days = 1
total negative (reverse) flow = -0.24 cfs-d
number of missing flow data: 0

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Table 1. (continued).

For S140:

Term	c _{lab}	g _{lab}	q _{lab}	dbkey	iymdcomp
S140	NONE	S140	S140_T	06754	

Grab sample n = 19
first datum : 1999/05/20
last datum : 2000/04/11
average value (arithmetic mean) = 60 ppb
range = 21 to 298 ppb

Grab sample with positive flow = 13
first datum : 1999/06/15
last datum : 1999/11/30
average value (arithmetic mean) = 68 ppb
range = 28 to 298 ppb
flow weighted mean for data = 67 ppb
regression: TP conc (ppb) = 72.9223 - 0.0088 * Flow (cfs)

Flow data from 1999/05/01 to 2000/04/30
number of no flow days = 153
number of positive flow days = 195
total positive flow = 90753.88 cfs-d
number of reverse flow days = 18
total negative (reverse) flow = -862.85 cfs-d
number of missing flow data: 0

Table 1. (continued).

For L28IN:

Term	c _{lab}	g _{lab}	q _{lab}	dbkey	iymdcomp
L28IN	L28IN	BSC5	L28IN_O	FF809	19970910

Grab sample n = 32
first datum : 1999/05/05
last datum : 2000/04/19
average value (arithmetic mean) = 59 ppb
range = 15 to 162 ppb
note: duplicate data of grab samples on
1999/08/04, 1999/08/18, 1999/09/01

Grab sample with positive flow = 17
first datum : 1999/06/30
last datum : 2000/04/19
average value (arithmetic mean) = 74 ppb
range = 35 to 162 ppb
flow weighted mean for data = 100 ppb
regression: TP conc (ppb) = 47.0646 + 0.1084 * flow (cfs)

Autosampler (flow proportional composite) n = 33
first datum : 1999/05/26
last datum : 2000/04/12
average value (arithmetic mean) = 87 ppb
range = 26 to 137 ppb
flow weighted mean for data = 104 ppb
regression: TP conc (ppb) = 73.6064 + 0.0841 * Flow (cfs)
load ratio of comp:grab
for data = 0.962232 (common days = 16)
load model = 0.975515 (common days = 195)

Flow data from 1999/05/01 to 2000/04/30
number of no flow days = 0
number of positive flow days = 221
total positive flow = 43085.77 cfs-d
number of reverse flow days = 142
total negative (reverse) flow = -5997.90 cfs-d
number of missing flow data: 3
for 2000/1/9-2000/1/11

Table 1. (continued).

For L28IS:

Note: Flow data were available through 9/25/1999 for the site.

Water quality data were through 10/29/1999.

Term	c_{lab}	g_{lab}	q_{lab}	dbkey	iymdcomp
L28IS	L28IS	L28IS@175	L28IS_O	FF812	19999999

Grab sample n = 21
first datum : 1999/05/21
last datum : 1999/10/29
average value (arithmetic mean) = 62 ppb
range = 5 to 167 ppb

Grab sample with positive flow = 17
first datum : 1999/05/28
last datum : 1999/09/23
average value (arithmetic mean) = 55 ppb
range = 14 to 132 ppb
flow weighted mean for data = 67 ppb
regression: TP conc (ppb) = 45.9606 + 0.0463 * flow (cfs)

Autosampler (flow proportional composite) n = 17
first datum : 1999/05/21
last datum : 1999/10/01
average value (arithmetic mean) = 50 ppb
range = 23 to 142 ppb
flow weighted mean for data = 56 ppb
regression: TP conc (ppb) = 45.1072 + 0.0255 * flow (cfs)
load ratio of comp:grab
for data = 0.700440 (common days = 17)
load model = 0.841422 (common days = 106)

Flow data from 1999/05/01 to 1999/09/25
number of no flow days = 0
number of positive flow days = 120
total positive flow = 24962.40 cfs-d
number of reverse flow days = 28
total negative (reverse) flow = -1039.40 cfs-d
number of missing flow data (to 2000/4/30): 218

Table 1. (continued).

For WWEIR:

Term	c _{lab}	g _{lab}	q _{lab}	dbkey	iymdcomp
WWEIR	WWEIR	WFEED	WFEED_0	16752	19971224

Grab sample n = 51
first datum : 1999/05/06
last datum : 2000/04/27
average value (arithmetic mean) = 37 ppb
range = 17 to 89 ppb

Grab sample with positive flow = 35
first datum : 1999/06/24
last datum : 2000/04/20
average value (arithmetic mean) = 36 ppb
range = 17 to 89 ppb
flow weighted mean for data = 51 ppb
regression: TP conc (ppb) = 21.5192 + 0.1408 * flow (cfs)

Autosampler (flow proportional composite) n = 33
first datum : 1999/07/08
last datum : 2000/04/20
average value (arithmetic mean) = 45 ppb
range = 22 to 144 ppb
flow weighted mean for data = 59 ppb
regression: TP conc (ppb) = 27.9189 + 0.1563 * flow (cfs)
load ratio of comp:grab
for data = 1.20297 (common days = 35)
load model = 1.18886 (common days = 245)

Flow data from 1999/05/01 to 2000/04/30
number of no flow days = 115
number of positive flow days = 251
total positive flow = 26889.77 cfs-d
number of reverse flow days = 0
number of missing flow data = 0

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Table 1. (continued).

For NFEED:

Term	c _{lab}	g _{lab}	q _{lab}	dbkey	iymdcomp
NFEED	NFEED	NONE	NFEED_0	16754	19960619

Grab sample n = 51
first datum : 1999/05/06
last datum : 2000/04/27
average value (arithmetic mean) = 99 ppb
range = 30 to 349 ppb

Grab sample with positive flow = 29
first datum : 1999/05/06
last datum : 2000/04/20
average value (arithmetic mean) = 116 ppb
range = 49 to 349 ppb
flow weighted mean for data = 168 ppb
regression: TP conc (ppb) = 71.9358 + 0.7646 * flow (cfs)

Autosampler (flow proportional composite) n = 47
first datum : 1999/05/06
last datum : 2000/05/11
average value (arithmetic mean) = 106 ppb
range = 34 to 306 ppb
flow weighted mean for data = 191 ppb
regression: TP conc (ppb) = 72.4448 + 1.1691 * flow (cfs)
load ratio of comp:grab
for data = 1.11731 (common days = 29)
load model = 1.16936 (common days = 230)

Flow data from 1999/05/01 to 2000/04/30
number of no flow days = 0
number of positive flow days = 240
total positive flow = 13811.67 cfs-d
number of reverse flow days = 126
total negative (reverse) flow = -1792.52 cfs-d
number of missing flow data: 0

Table 1. (continued).

For S190:

Term	c _{lab}	g _{lab}	q _{lab}	dbkey	iymdcomp
S190	NONE	S190	S190_S	15987	

Grab sample n = 18
first datum : 1999/05/20
last datum : 2000/04/17
average value (arithmetic mean) = 71 ppb
range = 34 to 179 ppb

Grab sample with positive flow = 12
first datum : 1999/06/17
last datum : 1999/11/18
average value (arithmetic mean) = 79 ppb
range = 40 to 179 ppb
flow weighted mean for data = 111 ppb
regression: TP conc (ppb) = 30.8120 + 0.1376 * Flow (cfs)

Flow data from 1999/05/01 to 2000/04/30
number of no flow days = 169
number of positive flow days = 197
total positive flow = 49198.65 cfs-d
number of reverse flow days = 0
number of missing flow data: 0

Table 1. (continued).

For L28U:

Term	cLab	gLab	qLab	dbkey	iymdcomp
L28U	L28U	BCS7	L28U_O	FF808	19970917

Grab sample n = 32
first datum : 1999/05/05
last datum : 2000/04/19
average value (arithmetic mean) = 71 ppb
range = 16 to 357 ppb
note: duplicate data of grab samples on
1999/07/22, 1999/08/04, 1999/09/01

Grab sample with positive flow = 22
first datum : 1999/05/05
last datum : 2000/04/19
average value (arithmetic mean) = 79 ppb
range = 21 to 357 ppb
flow weighted mean for data = 98 ppb
regression: TP conc (ppb) = 56.7183 + 0.1182 * Flow (cfs)

Autosampler (flow proportional composite) n = 48
first datum : 1999/05/05
last datum : 2000/04/12
average value (arithmetic mean) = 117 ppb
range = 30 to 530 ppb
flow weighted mean for data = 121 ppb
regression: TP conc (ppb) = 116.0179 + 0.0102 * Flow (cfs)
load ratio of comp:grab
~~for data = 1.16400 (common days = 21)~~
~~load model = 1.13729 (common days = 258)~~
note : duplicate data of auto samples on
1999/06/30, 1999/08/18

Flow data from 1999/05/01 to 2000/04/30
number of no flow days = 0
number of positive flow days = 272
total positive flow = 50104.21 cfs-d
number of reverse flow days = 94
total negative (reverse) flow = -1651.54 cfs-d
number of missing flow data: 0

**C Agreement TP load calculation summary: Total flow and total
May 1, 1999 through April 30, 2000.**

! in kg. FMWC in ppb.

		Flow	TP load	FWMC data ^{*1}	FWMC model ^{*2}
L3BRS	auto & grab	225.9	57187.1		253
	auto only		57208.9	254	253
	grab only		47915.5	230	212
USSO	auto & grab	57.2	6358.0		111
	auto only		6274.3	109	110
	grab only		7403.8	131	129
L28U	auto & grab	122.6	14762.3		120
	auto only		14799.8	121	121
	grab only		12980.2	98	106
S140	grab only	222.0	15532.5	67	70
WWEIR	auto & grab	65.8	3900.1		59
	auto only		3900.1	59	59
	grab only		3280.5	51	50
NFEED	auto & grab	33.8	6436.8		190
	auto only		6500.6	191	192
	grab only		5504.6	168	163
S190	grab only	120.4	13246.1	111	111
L28IN	auto & grab	105.4	10879.9		103
	auto only		10919.6	104	104
	grab only		11153.0	100	106
L28IS	auto & grab	61.1	3404.7		56
	auto only		3420.2	56	56
	grab only		4046.4	67	66

*1: flow weighted mean concentration calculated from grab or automatic sampler data in Table 1.

*2: flow weighted mean concentration calculated using the model (divide load by flow).

Note: L28IS values are for 5/1/1999 through 9/25/1999 only.

)
Table 2. (continued)

For negative flow:

Station	TP data	Flow	TP load
L3BRS	auto & grab	-0.1	-6.2
	auto only		-8.0
	grab only		-3.4
USSO	auto & grab	0.0	-0.1
	auto only		-0.1
	grab only		0.0
L28U	auto & grab	-4.0	-431.2
	auto only		-453.4
	grab only		-320.7
S140	grab only	-2.1	-88.7
WWEIR	auto & grab	0.0	0.0
NFEED	auto & grab	-4.4	-390.7
	auto only		-390.7
	grab only		-354.4
S190	grab only	0.0	0.0
L28IN	auto & grab	-14.7	-1041.8
	auto only		-1126.6
	grab only		-906.3
L28IS	auto & grab	-2.5	-73.7
	auto only		-78.8
	grab only		-66.3

Note: L28IS values are for 5/1/1999 through 9/25/1999 only.

Table 3. Seminole/SFWMD Agreement Report total phosphorus (TP) load calculation monthly summary by station.

Note 1: Flow is in million cubic meter (and in thousand acre-feet).

Note 2: Flow-weighted-mean for each month is calculated by dividing monthly load with monthly total flow.

For L3BRS:

station	month	days	flow	load(kg)	fwmc(ppb)	flow_neg	load_neg
L3BRS	1999/05	31	1.490 (1.208)	122.657	82	-0.005 (-0.004)	-0.295
L3BRS	1999/06	30	2.821 (2.287)	269.290	95	0.000 (0.000)	0.000
L3BRS	1999/07	31	48.003 (38.917)	11751.843	245	0.000 (0.000)	0.000
L3BRS	1999/08	31	20.176 (16.357)	3735.248	185	0.000 (0.000)	0.000
L3BRS	1999/09	30	54.932 (44.534)	17677.211	322	0.000 (0.000)	0.000
L3BRS	1999/10	31	74.163 (60.125)	20772.180	280	0.000 (0.000)	0.000
L3BRS	1999/11	30	13.850 (11.228)	1924.993	139	0.000 (0.000)	0.000
L3BRS	1999/12	31	3.723 (3.019)	293.286	79	0.000 (0.000)	0.000
L3BRS	2000/01	31	2.472 (2.004)	164.932	67	0.000 (0.000)	0.000
L3BRS	2000/02	29	2.208 (1.790)	221.706	100	-0.004 (-0.003)	-0.629
L3BRS	2000/03	31	0.659 (0.534)	49.424	75	-0.049 (-0.040)	-5.142
L3BRS	2000/04	30	1.368 (1.109)	204.274	149	-0.001 (-0.001)	-0.147

For USSO:

station	month	days	flow	load(kg)	fwmc(ppb)	flow_neg	load_neg
USSO	1999/05	31	0.399 (0.323)	50.437	126	0.000 (0.000)	0.000
USSO	1999/06	30	10.993 (8.912)	1562.817	142	0.000 (0.000)	0.000
USSO	1999/07	31	7.229 (5.860)	1094.035	151	0.000 (0.000)	0.000
USSO	1999/08	31	6.192 (5.020)	374.267	60	0.000 (0.000)	0.000
USSO	1999/09	30	10.107 (8.193)	942.094	93	0.000 (0.000)	0.000
USSO	1999/10	31	15.827 (12.831)	1784.683	113	0.000 (0.000)	0.000
USSO	1999/11	30	3.070 (2.489)	298.374	97	0.000 (0.000)	0.000
USSO	1999/12	31	1.471 (1.192)	76.711	52	0.000 (0.000)	0.000
USSO	2000/01	31	0.635 (0.515)	70.548	111	0.000 (0.000)	0.000
USSO	2000/02	29	0.552 (0.448)	37.289	68	0.000 (0.000)	0.000
USSO	2000/03	31	0.313 (0.253)	26.450	85	-0.001 (0.000)	-0.055
USSO	2000/04	30	0.403 (0.327)	40.293	100	0.000 (0.000)	0.000

For L28U:

station	month	days	flow	load(kg)	fwmc(ppb)	flow_neg	load_neg
L28U	1999/05	31	0.590 (0.478)	106.575	181	-0.194 (-0.158)	-54.169
L28U	1999/06	30	17.985 (14.580)	5003.394	278	-0.240 (-0.195)	-112.589
L28U	1999/07	31	18.359 (14.884)	2969.893	162	0.000 (0.000)	0.000
L28U	1999/08	31	11.658 (9.451)	639.784	55	0.000 (0.000)	0.000
L28U	1999/09	30	23.764 (19.265)	1668.980	70	0.000 (0.000)	0.000
L28U	1999/10	31	37.567 (30.456)	3442.087	92	0.000 (0.000)	0.000
L28U	1999/11	30	8.646 (7.010)	677.963	78	0.000 (0.000)	0.000
L28U	1999/12	31	1.855 (1.504)	96.676	52	-0.118 (-0.096)	-5.983
L28U	2000/01	31	0.310 (0.252)	61.917	200	-0.576 (-0.467)	-73.073
L28U	2000/02	29	0.476 (0.386)	21.210	45	-0.981 (-0.795)	-45.184
L28U	2000/03	31	0.364 (0.295)	24.499	67	-0.993 (-0.805)	-85.737
L28U	2000/04	30	1.010 (0.819)	49.283	49	-0.938 (-0.760)	-54.462

Table 3. (continued)

For S140:

station	month	days	flow	load(kg)	fwmc(ppb)	flow_neg	load_neg
S140	1999/05	31	0.000 (0.000)	0.000	-999	0.000 (0.000)	0.000
S140	1999/06	30	25.435 (20.620)	5318.334	209	0.000 (0.000)	0.000
S140	1999/07	31	30.598 (24.806)	1764.261	58	0.000 (0.000)	0.000
S140	1999/08	31	18.257 (14.801)	722.846	40	0.000 (0.000)	0.000
S140	1999/09	30	41.895 (33.965)	1884.336	45	0.000 (0.000)	0.000
S140	1999/10	31	71.400 (57.885)	4492.785	63	0.000 (0.000)	0.000
S140	1999/11	30	24.804 (20.109)	944.762	38	0.000 (0.000)	0.000
S140	1999/12	31	4.548 (3.687)	191.007	42	0.000 (0.000)	0.000
S140	2000/01	31	0.000 (0.000)	0.000	-999	0.000 (0.000)	0.000
S140	2000/02	29	0.049 (0.040)	2.048	42	0.000 (0.000)	0.000
S140	2000/03	31	0.046 (0.037)	1.917	42	-0.598 (-0.485)	-25.119
S140	2000/04	30	5.005 (4.058)	210.221	42	-1.513 (-1.227)	-63.544

For WWEIR:

station	month	days	flow	load(kg)	fwmc(ppb)	flow_neg	load_neg
WWEIR	1999/05	31	0.000 (0.000)	0.000	-999	0.000 (0.000)	0.000
WWEIR	1999/06	30	1.359 (1.102)	42.176	31	0.000 (0.000)	0.000
WWEIR	1999/07	31	7.174 (5.816)	425.944	59	0.000 (0.000)	0.000
WWEIR	1999/08	31	5.426 (4.399)	207.281	38	0.000 (0.000)	0.000
WWEIR	1999/09	30	17.258 (13.992)	1197.040	69	0.000 (0.000)	0.000
WWEIR	1999/10	31	21.021 (17.042)	1541.266	73	0.000 (0.000)	0.000
WWEIR	1999/11	30	7.523 (6.099)	295.920	39	0.000 (0.000)	0.000
WWEIR	1999/12	31	3.590 (2.911)	122.807	34	0.000 (0.000)	0.000
WWEIR	2000/01	31	1.747 (1.416)	50.088	29	0.000 (0.000)	0.000
WWEIR	2000/02	29	0.469 (0.380)	10.984	23	0.000 (0.000)	0.000
WWEIR	2000/03	31	0.000 (0.000)	0.000	-999	0.000 (0.000)	0.000
WWEIR	2000/04	30	0.220 (0.179)	6.602	30	0.000 (0.000)	0.000

For NFEED:

station	month	days	flow	load(kg)	fwmc(ppb)	flow_neg	load_neg
NFEED	1999/05	31	0.743 (0.602)	55.263	74	-0.096 (-0.078)	-4.469
NFEED	1999/06	30	7.078 (5.738)	1295.520	183	-0.245 (-0.199)	-10.531
NFEED	1999/07	31	3.880 (3.146)	521.031	134	-0.251 (-0.203)	-24.038
NFEED	1999/08	31	1.883 (1.526)	117.713	63	-0.737 (-0.597)	-45.490
NFEED	1999/09	30	7.549 (6.120)	1882.599	249	-0.123 (-0.100)	-9.230
NFEED	1999/10	31	8.174 (6.627)	2145.304	262	-0.073 (-0.059)	-16.702
NFEED	1999/11	30	0.421 (0.341)	62.250	148	-0.616 (-0.500)	-79.393
NFEED	1999/12	31	0.802 (0.650)	84.875	106	-0.495 (-0.401)	-50.078
NFEED	2000/01	31	1.081 (0.877)	67.740	63	-0.361 (-0.293)	-26.305
NFEED	2000/02	29	0.587 (0.476)	47.262	81	-0.553 (-0.448)	-44.787
NFEED	2000/03	31	0.611 (0.496)	64.700	106	-0.354 (-0.287)	-35.462
NFEED	2000/04	30	0.981 (0.795)	92.565	94	-0.481 (-0.390)	-44.167

Table 3. (continued)**For S190:**

station	month	days	flow	load(kg)	fwmc(ppb)	flow_neg	load_neg
S190	1999/05	31	0.003 (- 0.002)	0.112	43	0.000 (- 0.000)	0.000
S190	1999/06	30	7.187 (- 5.827)	543.535	76	0.000 (- 0.000)	0.000
S190	1999/07	31	11.684 (- 9.473)	745.032	64	0.000 (- 0.000)	0.000
S190	1999/08	31	12.339 (- 10.003)	570.830	46	0.000 (- 0.000)	0.000
S190	1999/09	30	39.951 (- 32.389)	4882.976	122	0.000 (- 0.000)	0.000
S190	1999/10	31	41.760 (- 33.855)	6062.751	145	0.000 (- 0.000)	0.000
S190	1999/11	30	6.756 (- 5.477)	409.199	61	0.000 (- 0.000)	0.000
S190	1999/12	31	0.686 (- 0.556)	31.538	46	0.000 (- 0.000)	0.000
S190	2000/01	31	0.000 (- 0.000)	0.000	-999	0.000 (- 0.000)	0.000
S190	2000/02	29	0.000 (- 0.000)	0.009	46	0.000 (- 0.000)	0.000
S190	2000/03	31	0.002 (- 0.002)	0.096	46	0.000 (- 0.000)	0.000
S190	2000/04	30	0.000 (- 0.000)	0.019	46	0.000 (- 0.000)	0.000

For L28IN:

station	month	days	flow	load(kg)	fwmc(ppb)	flow_neg	load_neg
L28IN	1999/05	31	0.854 (- 0.692)	112.826	132	-1.604 (- 1.301)	-232.526
L28IN	1999/06	30	6.395 (- 5.184)	705.072	110	-0.968 (- 0.784)	-131.511
L28IN	1999/07	31	8.563 (- 6.942)	958.986	112	-0.555 (- 0.450)	-32.138
L28IN	1999/08	31	11.938 (- 9.678)	885.595	74	-0.132 (- 0.107)	-9.380
L28IN	1999/09	30	32.354 (- 26.229)	3452.580	107	0.000 (- 0.000)	0.000
L28IN	1999/10	31	35.008 (- 28.381)	4065.266	116	0.000 (- 0.000)	0.000
L28IN	1999/11	30	6.296 (- 5.104)	472.727	75	-0.094 (- 0.077)	-6.816
L28IN	1999/12	31	0.429 (- 0.348)	18.273	43	-1.217 (- 0.986)	-52.332
L28IN	2000/01	31	0.200 (- 0.162)	9.188	46	-3.922 (- 3.180)	-205.776
L28IN	2000/02	29	0.604 (- 0.490)	46.216	76	-3.201 (- 2.595)	-199.076
L28IN	2000/03	31	1.412 (- 1.144)	98.883	70	-1.555 (- 1.261)	-105.240
L28IN	2000/04	30	1.361 (- 1.103)	54.299	40	-1.426 (- 1.156)	-66.968

For L28IS:

station	month	days	flow	load(kg)	fwmc(ppb)	flow_neg	load_neg
L28IS	1999/05	31	2.168 (- 1.758)	61.803	29	-1.555 (- 1.261)	-37.907
L28IS	1999/06	30	7.210 (- 5.845)	326.697	45	-0.707 (- 0.573)	-18.020
L28IS	1999/07	31	10.753 (- 8.717)	800.011	74	-0.281 (- 0.228)	-17.773
L28IS	1999/08	31	13.038 (- 10.570)	549.819	42	0.000 (- 0.000)	0.000
L28IS	1999/09	30	27.903 (- 22.621)	1666.367	60	0.000 (- 0.000)	0.000

Table 4. Summary of Total Phosphorus Loads and Flows, Water Years 1998-2000.

Feeder Canals

	TP Loads (kg)*				Flow (million cubic meters)			
	WWEIR	NFEED	WWEIR + NFEED	S190	WWEIR	NFEED	WWEIR + NFEED	S190
WY98	1697	5126	6823	6988	51.5	36.7	88.2	86.7
WY99	2705	1642	4347	4446	52.9	23.2	76.1	58.5
WY00	3281	5505	8786	13246	65.8	33.8	99.6	120.4

L-28 Interceptor Canal

	TP Loads (kg)*			Flow (million cubic meters)		
	S190	L28IN	L28IS	S190	L28IN	L28IS
WY98	6988	N/A	N/A	86.7	67.1	89.8
WY99	4446	2290	3013	58.5	51.1	64.2
WY00	13246	11153	N/A	120.4	105.4	N/A

L-28 Canal

	TP Loads (kg)*			Flow (million cubic meters)		
	USSO	L28U	S140	USSO	L28U	S140
WY98**	1623	3655	3329	22.5	60.7	96.6
WY99	3014	4736	6372	29.9	71.5	116.5
WY00	7404	12980	15533	57.2	122.6	222

* Loads calculated from grab samples

** Data collected 9/1/97-4/30/98

Results of Flow Comparisons

Similarity of flow data at different sampling locations within a canal is one indication as to whether different measuring methods are providing essentially the same data.

West Feeder Canal, North Feeder Canal and S190

Because S190 is fed by the West and North Feeder Canals, the flow at S190 should be close to the sum of these two flows. The graphs for the daily flows at the three sites and the sum of WWEIR + NFEED compared with S190 flow show that the peak flows match well (**Figure 11**). During low flow conditions, WWEIR + NFEED flows frequently exceeded the S190 flows, indicating wind-driven flows that are not all discharged through S190. In addition, low positive and negative flows occur in the North Feeder Canal when the S190 gates are closed, also indicating wind driven flow conditions.

S190, L28IN and L28IS

Flow in the L28 Interceptor Canal has been measured by the USGS at the southern boundary of the Big Cypress Seminole Indian Reservation (site L28IN) and at the western boundary of the Miccosukee Reservation (site L28IS). The S-190 spillway located within the Seminole Reservation is operated by the District and determines the flow in the L28I canal. It can be observed in **Figure 12** that the flows at L28IN and L28IS correlate very well when there is flow from S190, but become more variable when the S190 gates are closed. During closed gate conditions, flows at L28IN and L28IS can be both positive and negative, indicating they are wind driven (**Figures 9 and 10**). **Figure 13** shows a strong linear relationship between L28IN and L28IS flows. From approximately +100 cfs to -100 cfs the data are more variable, reflecting predominantly wind driven flows.

USSO, G89DS and L28U

The L28 Canal flow, which originates at the USSO site, was compared with flow measured at SFWMD UVM site G89DS and L28U (**Figure 14**). The high and low flow periods correlate fairly well between the sites with high flow periods having the greatest differences in flow rates, *i.e.* cfs, between the sites. Flows increase between USSO and L28U during rainfall events due to discharges from unmonitored drainage ditches along the canal. Dry periods in May 1999 and from January through April 2000 resulted in no discharges from USSO. Flow data from June through November 1999 at USSO and L28U (**Figures 3 and 4**) show that the flows at L28U are consistently greater than those at USSO indicating that even moderate rainfall contributes inflows to the L28U Canal from the drainage ditches.

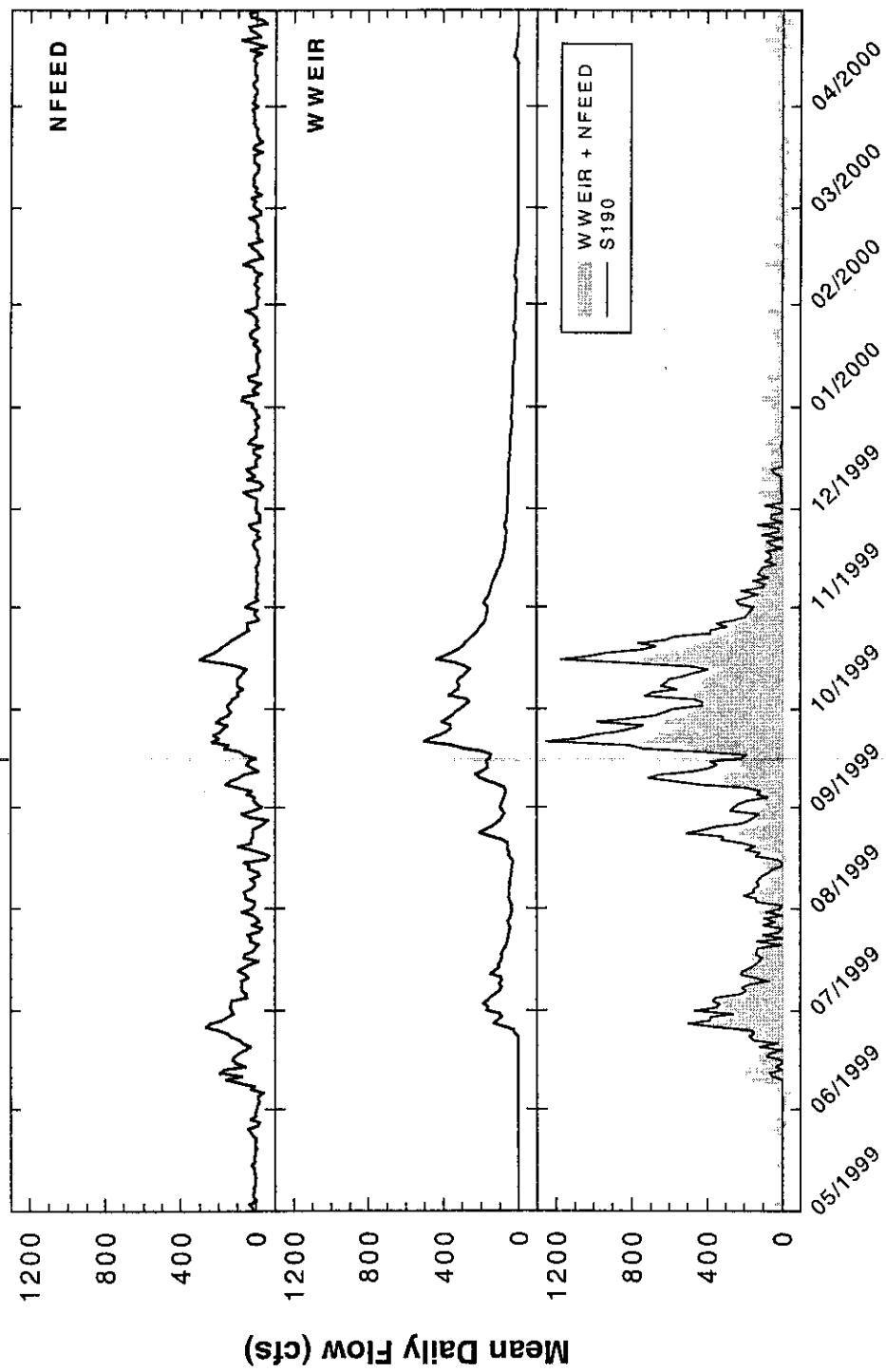


Figure 11. Comparison of WWEIR, NFEED, and S190 Flows.

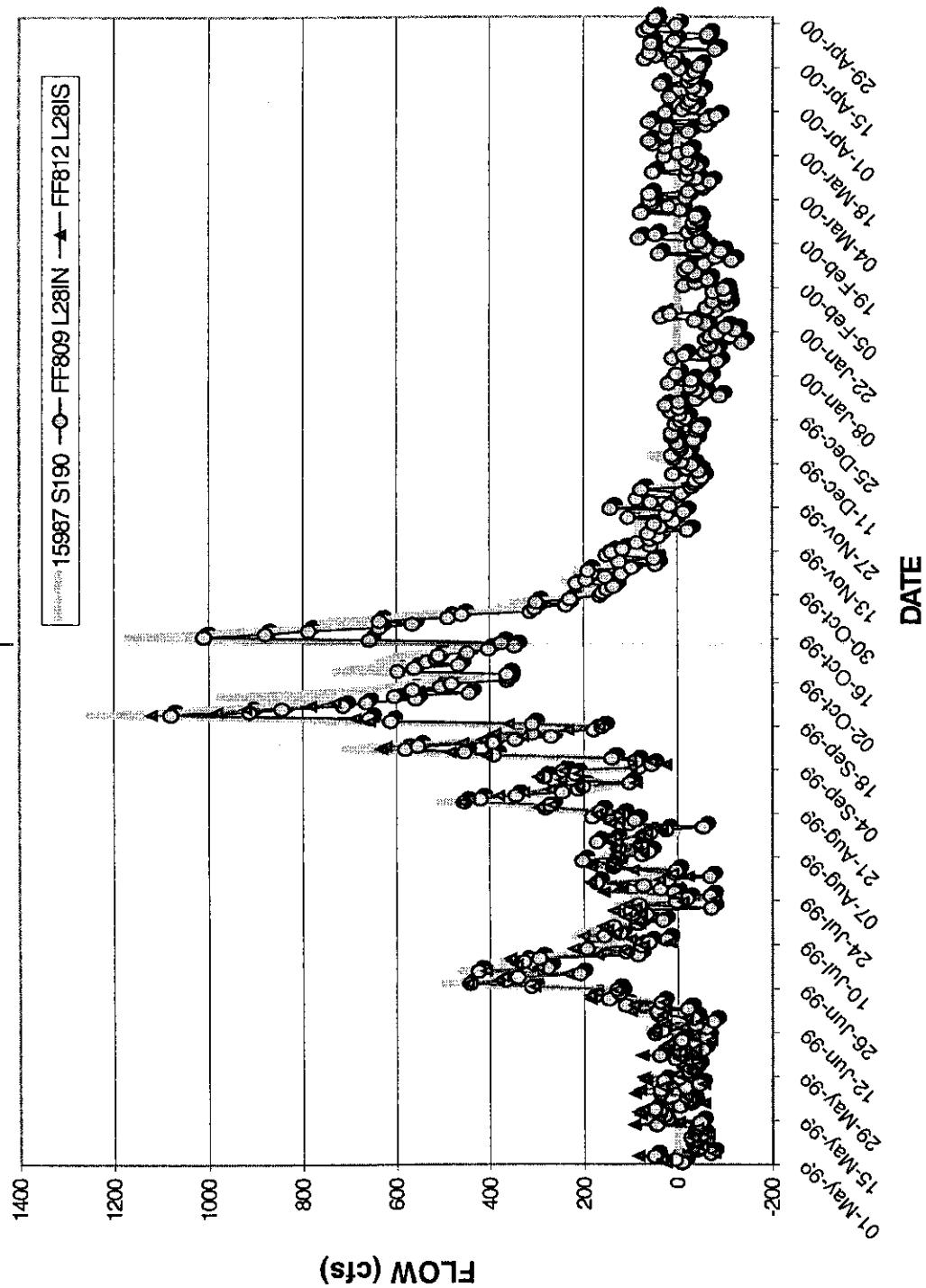


Figure 12. Comparison of L28IN and L28IS Flows with S190 Flow.

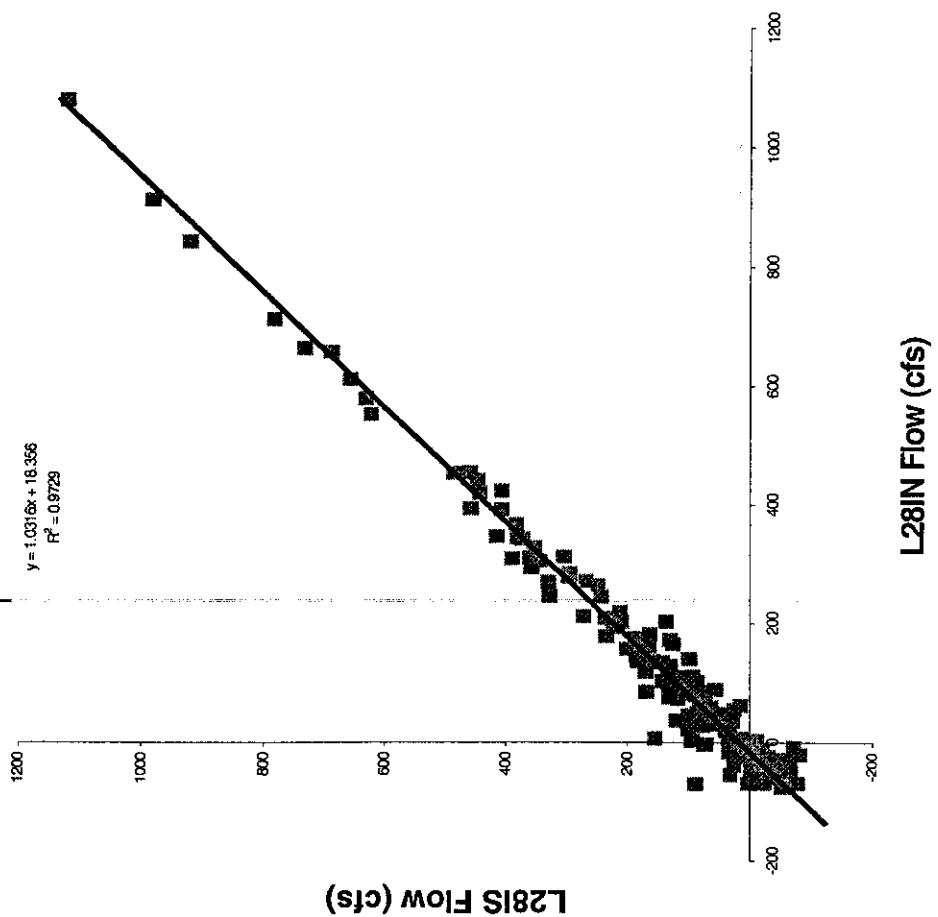


Figure 13. Relationship between L28IN Flow and L28IS Flow.

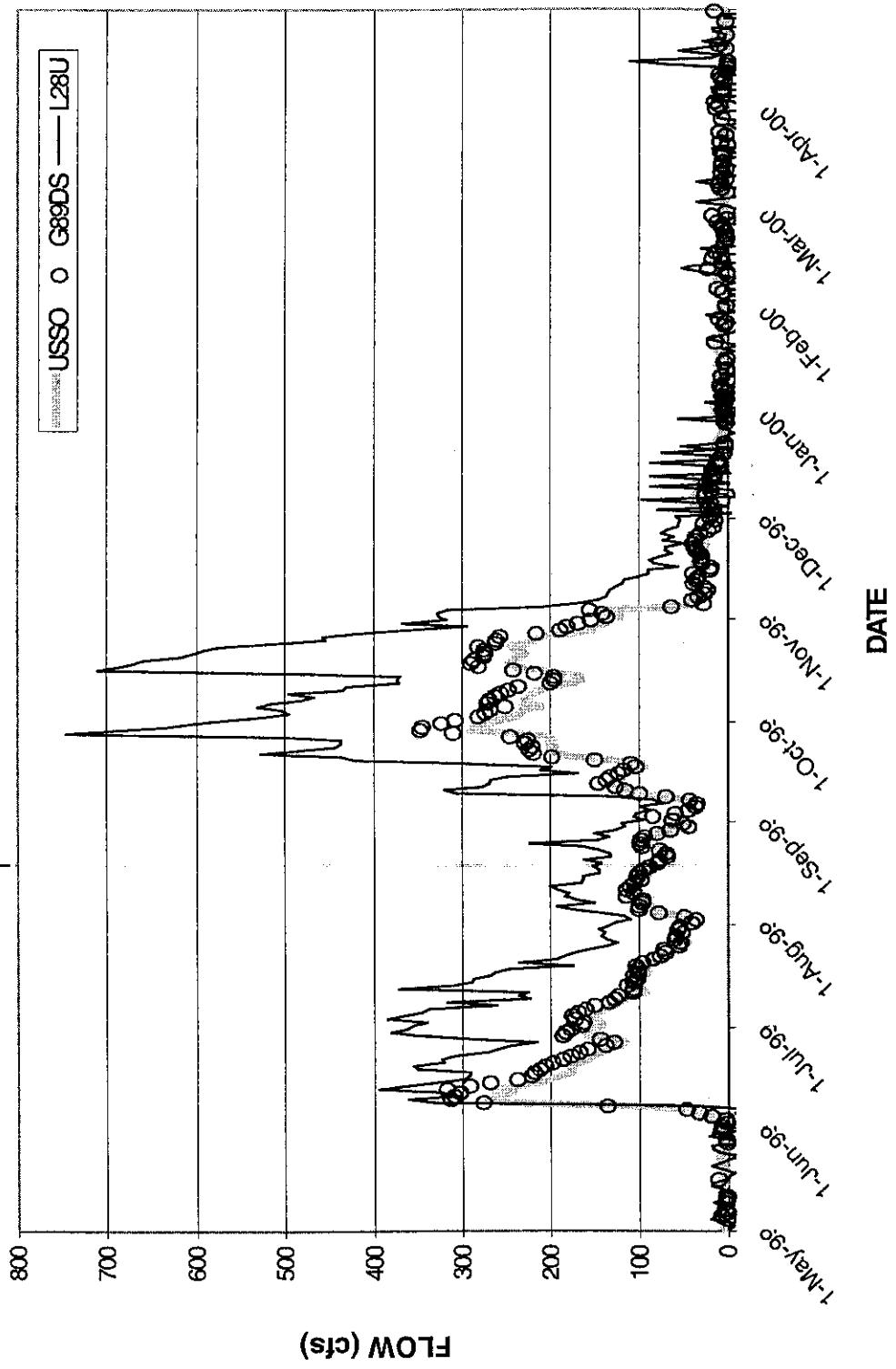


Figure 14. Comparison of L28U Flow with G89 (Down Stream) and USSO Flows.

Water Quality Data

Water quality data collected from May 1, 1997 through April 30, 2000 are summarized for each of the monitoring sites by water year (**Tables 5 through 13**). Each water quality parameter measured at the nine sites was compared with the Class III Criteria (Florida Administrative Code 62-302.530, Criteria for Surface Water Quality Classifications) and the Sub-Class 2-B Criteria (Seminole Tribe of Florida, Water Quality Standards for the Big Cypress Indian Reservation) to determine if any criterion were exceeded.

For Water Year 2000, dissolved oxygen concentrations less than the 5.0 mg/L criterion were measured periodically at all sites. This condition is typical of South Florida canals. The minimum pH criterion of 6.0 pH units was exceeded at WWEIR (**Table 8**), NFEED (**Table 9**) and L28IN (**Table 11**). The maximum pH criterion of 8.5 pH units was exceeded at L28U (**Table 6**) and L28IN (**Table 11**).

Most trace metal measurements were below the method detection limit (MDL). Cadmium, copper and zinc were detected above the MDL at six of the nine monitoring sites a total of 26 times (**Table 13**). When the measured concentrations were compared with the Class III criteria, which is a function of water hardness, one cadmium sample at L28IN exceeded the criterion (**Table 13**). Hardness is calculated using the magnesium and calcium concentrations of the same water sample used to measure the trace metals. The hardness equation is:

$$\begin{aligned} \text{Hardness mg equivalent CaCO}_3/\text{L} = & 2.497 [\text{dissolved Ca, mg/L}] + \\ & 4.118 [\text{dissolved Mg, mg/L}] \end{aligned}$$

(Standard Method 19th Ed., 2340 B., p2-36, 1995).

TP concentration data from grab samples and total nitrogen (TN) data calculated by summing total Kjeldahl nitrogen (TKN) and total nitrite and nitrate (NOX) for the nine sampling sites are presented as notched box plots in **Figures 15** and **16**, respectively. The narrowest part of the notch represents the median concentration. The complete notch represents the approximate upper and lower 95% confidence interval values. If the notches of two sites do not overlap, the respective site medians are considered to be significantly different at about the 95% confidence level. The top and bottom of the box represent the 75th and 25th percentiles, respectively. The whiskers show the range of values falling within 1.5 times the absolute value of the difference between the 75th and 25th percentiles. Values outside the whiskers are plotted with asterisks if they do not exceed 3 times the absolute value of the difference between the 75th and 25th percentiles. Values beyond 3 times the absolute value are plotted with empty circles.

L28IN and L28IS had the lowest median TP concentrations. L3BRS, USSO and NFEED had the highest median concentrations (**Figure 15**). The notched box plots indicate that there is less variation between the sites for TN concentrations than for TP concentrations (**Figure 16**). These results can not be interpreted until the variability of the nitrogen species comprising total nitrogen are evaluated for each site and compared.

Table 5. Summary of Water Quality Parameters Collected at Station L3BRS from May 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
PHYSICAL								
Dissolved Oxygen (mg/L)	05/01/97 - 04/30/98	field	22	1.72	7.73	4.50	1.78	Not be less than 5.0 mg/L
	05/01/98 - 04/30/99	field	18	0.22	9.31	3.60	2.53	
	05/01/99 - 04/30/00	field	18	0.71	9.59	4.07	2.56	
Specific Conductivity ($\mu\text{mhos}/\text{cm}$)	05/01/97 - 04/30/98	field	22	404	600	505	66	Not greater than 50% above background or 1,275 $\mu\text{mhos}/\text{cm}$
	05/01/98 - 04/30/99	field	18	331	651	508	96	
	05/01/99 - 04/30/00	field	18	288	674	487	133	
pH (SU)	05/01/97 - 04/30/98	field	22	6.52	7.62	7.25	0.28	Not less than 6.0 or greater than 8.5
	05/01/98 - 04/30/99	field	18	6.72	8.39	7.39	0.40	
	05/01/99 - 04/30/00	field	18	6.69	8.11	7.41	0.40	
Turbidity (NTU)	05/01/96 - 04/30/97	grab	22	0.925	5.330	1.930	1.151	Less than or equal to 29 NTU above background
	05/01/97 - 04/30/98	grab	15	0.848	13.000	2.971	2.964	
	05/01/99 - 04/30/00	grab	19	1.300	4.920	2.718	0.959	
Total Suspended Solids (mg/L)	05/01/96 - 04/30/97	grab	4	<3	<3	<3		Not applicable
	05/01/97 - 04/30/98	grab	3	<3	23.000	9.833	11.536	
	05/01/99 - 04/30/00	grab	4	<3	7.000	3.500	2.614	
Hardness (as CaCO ₃) (mg CaCO ₃ /L)	05/01/96 - 04/30/97	grab	4	98.899	240.290	177.670	58.722	Not applicable
	05/01/97 - 04/30/98	grab	4	149.086	256.872	181.137	50.829	
	05/01/99 - 04/30/00	grab	4	122.978	233.004	171.671	50.869	
Alkalinity (mg/L)	05/01/96 - 04/30/97	grab	22	142.500	213.200	174.932	22.419	Not less than 20 mg/L
	05/01/97 - 04/30/98	grab	15	114.500	243.500	173.553	44.078	
	05/01/99 - 04/30/00	grab	19	93.930	241.100	175.831	47.673	
NUTRIENTS								
Total Nitrogen (mg/L)	05/01/97 - 04/30/98	composite&grab	66	1.093	4.358	1.748	0.448	
	05/01/98 - 04/30/99	composite&grab	61	1.080	2.283	1.517	0.293	
	05/01/99 - 04/30/00	composite&grab	63	1.007	2.217	1.450	0.268	
Nitrate/Nitrite (as N) (mg N/L)	05/01/97 - 04/30/98	composite&grab	67	<0.006	0.407	0.138	0.077	
	05/01/98 - 04/30/99	composite&grab	61	<0.004	0.357	0.078	0.087	
	05/01/99 - 04/30/00	composite&grab	63	0.004	0.237	0.088	0.071	
Ammonia (as N) (mg N/L)	05/01/97 - 04/30/98	composite&grab	65	0.021	0.335	0.122	0.079	
	05/01/98 - 04/30/99	composite&grab	64	<0.009	0.320	0.068	0.063	
	05/01/99 - 04/30/00	composite&grab	63	<0.009	0.229	0.064	0.048	
Total Phosphorus (mg/L)	05/01/97 - 04/30/98	composite&grab	66	0.038	0.341	0.127	0.055	
	05/01/98 - 04/30/99	composite&grab	65	0.042	0.344	0.118	0.063	
	05/01/99 - 04/30/00	composite&grab	64	0.048	0.399	0.143	0.089	
Ortho-Phosphate (as P) (mg P/L)	05/01/97 - 04/30/98	grab	18	0.036	0.177	0.101	0.039	
	05/01/98 - 04/30/99	grab	15	0.008	0.166	0.077	0.052	
	05/01/99 - 04/30/00	grab	19	0.005	0.268	0.091	0.076	
Dissolved Silica (mg/L)	05/01/97 - 04/30/98	grab	4	4.280	9.821	7.691	2.468	Not applicable
	05/01/98 - 04/30/99	grab	4	6.837	11.962	8.222	2.499	
	05/01/99 - 04/30/00	grab	4	3.255	11.486	7.595	3.432	

note: bold typed value exceeds Class III Criterion.

Table 5 (continued). Summary of Water Quality Parameters Collected at Station L3BRS from May 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
MAJOR IONS								
Dissolved Sodium (mg/L)	05/01/97 - 04/30/98	grab	4	16.000	41.400	32.050	11.144	Not applicable
	05/01/98 - 04/30/99	grab	4	27.000	37.300	33.500	4.618	
	05/01/99 - 04/30/00	grab	4	17.195	44.970	29.742	13.137	
Dissolved Potassium (mg/L)	05/01/97 - 04/30/98	grab	4	2.300	4.500	3.158	0.971	Not applicable
	05/01/98 - 04/30/99	grab	4	2.710	4.820	3.293	1.020	
	05/01/99 - 04/30/00	grab	4	2.996	3.434	3.278	0.198	
Dissolved Calcium (mg/L)	05/01/97 - 04/30/98	grab	4	34.000	83.500	60.850	20.505	Not applicable
	05/01/98 - 04/30/99	grab	4	41.400	87.700	59.600	19.766	
	05/01/99 - 04/30/00	grab	4	41.679	79.114	58.185	17.294	
Dissolved Magnesium (mg/L)	05/01/97 - 04/30/98	grab	4	3.400	7.720	6.247	1.944	Not applicable
	05/01/98 - 04/30/99	grab	4	5.190	11.100	7.848	2.785	
	05/01/99 - 04/30/00	grab	4	4.591	8.610	6.407	1.867	
Chlorides (mg/L)	05/01/97 - 04/30/98	grab	22	31.096	55.863	42.982	7.818	Not applicable
	05/01/98 - 04/30/99	grab	15	18.470	64.480	44.255	13.692	
	05/01/99 - 04/30/00	grab	19	20.980	70.990	43.834	15.631	
Sulfate (mg/L)	05/01/97 - 04/30/98	grab	4	6.353	10.370	8.778	1.811	Not applicable
	05/01/98 - 04/30/99	grab	4	7.338	27.821	13.086	9.841	
	05/01/99 - 04/30/00	grab	4	6.770	11.850	8.785	2.444	
TRACE ELEMENTS								
Total Mercury (µg/L)	05/01/97 - 04/30/98	grab	2	<0.2	<0.2	<0.2		Less than or equal to 0.012 µg/L
	05/01/98 - 04/30/99	grab	2	<0.2	<0.2	<0.2		
	05/01/99 - 04/30/00	grab	1	<0.2	<0.2	<0.2		
Total Cadmium (µg/L)	05/01/97 - 04/30/98	grab	2	<0.3	0.403	<0.3		Less than or equal to calculated value using: $e^{(0.7852 \ln(\text{Hardness}) - 3.45)}$
	05/01/98 - 04/30/99	grab	2	<0.3	<0.3	<0.3		
	05/01/99 - 04/30/00	grab	2	<0.3	<0.3	<0.3		
Total Copper (µg/L)	05/01/97 - 04/30/98	grab	2	1.740	2.700	2.220		Less than or equal to calculated value using: $e^{(0.8453 \ln(\text{Hardness}) - 1.46)}$
	05/01/98 - 04/30/99	grab	2	1.220	3.930	2.575		
	05/01/99 - 04/30/00	grab	2	<1.2	<1.2	<1.2		
Total Zinc (µg/L)	05/01/97 - 04/30/98	grab	2	<4	<4	<4		Less than or equal to calculated value using: $e^{(0.8473 \ln(\text{Hardness}) - 0.78)}$
	05/01/98 - 04/30/99	grab	2	<4	5.600	<4		
	05/01/99 - 04/30/00	grab	2	<4	6.311	4.155		
Total Arsenic (µg/L)	05/01/97 - 04/30/98	grab	2	<1.5	<1.5	<1.5		Less than or equal to 50 µg/L
	05/01/98 - 04/30/99	grab	2	<1.5	<1.5	<1.5		
	05/01/99 - 04/30/00	grab	2	<1.5	<1.5	<1.5		
Total Lead (µg/L)	05/01/97 - 04/30/98	grab	2	<0.8	<0.8	<0.8		Less than or equal to calculated value using: $e^{(1.273 \ln(\text{Hardness}) - 4.705)}$
	05/01/98 - 04/30/99	grab	2	<0.8	<0.8	<0.8		
	05/01/99 - 04/30/00	grab	2	<0.8	<0.8	<0.8		
Total Iron (µg/L)	05/01/97 - 04/30/98	grab	4	313.000	537.000	438.000	92.962	Less than or equal to 1,000 µg/L
	05/01/98 - 04/30/99	grab	4	95.100	1110.000	562.275	510.130	
	05/01/99 - 04/30/00	grab	4	135.609	1135.949	609.900	458.063	

Table 6. Summary of Water Quality Parameters Collected at Station USSO from May 1997 through April 2000

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
PHYSICAL								
Dissolved Oxygen (mg/L)	05/01/97 - 04/30/98	field	20	2.51	8.79	5.12	1.70	Not be less than 5.0 mg/L
	05/01/98 - 04/30/99	field	21	0.03	7.04	3.99	1.80	
	05/01/99 - 04/30/00	field	21	0.16	9.19	4.99	2.13	
Specific Conductivity ($\mu\text{mhos}/\text{cm}$)	05/01/97 - 04/30/98	field	20	372	561	500	38	Not greater than 50% above background or 1,275 $\mu\text{mhos}/\text{cm}$
	05/01/98 - 04/30/99	field	21	446	618	535	47	
	05/01/99 - 04/30/00	field	21	392	591	490	56	
pH (SU)	05/01/97 - 04/30/98	field	20	6.57	7.55	7.09	0.26	Not less than 6.0 or greater than 8.5
	05/01/98 - 04/30/99	field	21	6.70	7.57	7.22	0.27	
	05/01/99 - 04/30/00	field	21	6.56	7.85	7.30	0.31	
Turbidity (NTU)	05/01/97 - 04/30/98	grab	20	0.456	5.480	1.464	1.192	Less than or equal to 29 NTU above background
	05/01/98 - 04/30/99	grab	18	0.669	16.600	3.635	3.640	
	05/01/99 - 04/30/00	grab	19	0.582	5.240	2.127	1.358	
Total Suspended Solids (mg/L)	05/01/97 - 04/30/98	grab	4	<3	4.000	<3	1.250	Not applicable
	05/01/98 - 04/30/99	grab	3	<3	10.000	4.333	4.907	
	05/01/99 - 04/30/00	grab	4	<3	<3	<3	0.750	
Hardness (as CaCO ₃) (mg CaCO ₃ /L)	05/01/97 - 04/30/98	grab	4	211.650	239.299	228.189	13.018	Not applicable
	05/01/98 - 04/30/99	grab	4	218.581	231.855	223.229	6.172	
	05/01/99 - 04/30/00	grab	4	164.594	216.598	196.990	23.406	
Alkalinity (mg/L)	05/01/97 - 04/30/98	grab	20	159.100	202.700	179.650	12.382	Not less than 20 mg/L
	05/01/98 - 04/30/99	grab	18	148.200	227.400	191.450	23.333	
	05/01/99 - 04/30/00	grab	19	138.200	220.000	178.016	26.857	
NUTRIENTS								
Total Nitrogen (mg/L)	05/01/97 - 04/30/98	composite&grab	56	0.805	6.912	1.624	0.840	
	05/01/98 - 04/30/99	composite&grab	58	1.116	2.750	1.535	0.281	
	05/01/99 - 04/30/00	composite&grab	67	0.935	3.416	1.349	0.380	
Nitrate/Nitrite (as N) (mg N/L)	05/01/97 - 04/30/98	composite&grab	57	<0.006	0.245	0.026	0.036	
	05/01/98 - 04/30/99	composite&grab	58	0.004	0.148	0.017	0.024	
	05/01/99 - 04/30/00	composite&grab	67	<0.004	0.131	0.019	0.024	
Ammonia (as N) (mg N/L)	05/01/97 - 04/30/98	composite&grab	56	0.009	1.614	0.120	0.213	
	05/01/98 - 04/30/99	composite&grab	60	<0.009	0.630	0.094	0.108	
	05/01/99 - 04/30/00	composite&grab	65	<0.009	0.857	0.099	0.139	
Total Phosphorus (mg/L)	05/01/97 - 04/30/98	composite&grab	61	0.017	0.203	0.075	0.035	
	05/01/98 - 04/30/99	composite&grab	65	0.019	0.788	0.102	0.104	
	05/01/99 - 04/30/00	composite&grab	65	0.046	0.581	0.103	0.073	
Ortho-Phosphate (as P) (mg P/L)	05/01/97 - 04/30/98	grab	19	0.021	0.190	0.066	0.045	
	05/01/98 - 04/30/99	grab	18	0.006	0.174	0.060	0.045	
	05/01/99 - 04/30/00	grab	19	0.018	0.227	0.066	0.054	
Dissolved Silica (mg/L)	05/01/97 - 04/30/98	grab	4	3.952	8.948	7.189	2.230	Not applicable
	05/01/98 - 04/30/99	grab	4	3.752	11.263	7.669	3.395	
	05/01/99 - 04/30/00	grab	4	3.936	7.569	6.128	1.741	

note: bold typed value exceeds Class III Criterion.

Table 6 (continued). Summary of Water Quality Parameters Collected at Station USSO from May 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
MAJOR IONS								
Dissolved Sodium (mg/L)	05/01/97 - 04/30/98	grab	4	22.000	33.300	26.375	4.925	Not applicable
	05/01/98 - 04/30/99	grab	4	24.900	35.100	29.100	4.463	
	05/01/99 - 04/30/00	grab	4	16.271	33.251	24.952	7.141	
Dissolved Potassium (mg/L)	05/01/97 - 04/30/98	grab	4	3.020	6.300	4.508	1.381	Not applicable
	05/01/98 - 04/30/99	grab	4	3.260	7.430	5.378	1.707	
	05/01/99 - 04/30/00	grab	4	3.101	5.100	4.419	0.897	
Dissolved Calcium (mg/L)	05/01/97 - 04/30/98	grab	4	78.000	88.100	83.325	5.478	Not applicable
	05/01/98 - 04/30/99	grab	4	78.400	85.300	80.650	3.234	
	05/01/99 - 04/30/00	grab	4	60.308	77.465	70.639	7.324	
Dissolved Magnesium (mg/L)	05/01/97 - 04/30/98	grab	4	4.100	6.360	4.888	1.011	Not applicable
	05/01/98 - 04/30/99	grab	4	4.420	6.740	5.305	1.064	
	05/01/99 - 04/30/00	grab	4	3.401	6.916	5.004	1.579	
Chlorides (mg/L)	05/01/97 - 04/30/98	grab	20	31.877	44.711	35.455	3.483	
	05/01/98 - 04/30/99	grab	18	29.265	52.201	38.534	5.988	
	05/01/99 - 04/30/00	grab	19	24.570	52.410	33.692	7.267	
Sulfate (mg/L)	05/01/97 - 04/30/98	grab	4	8.221	24.591	18.876	7.353	Not applicable
	05/01/98 - 04/30/99	grab	4	6.047	23.551	15.236	7.580	
	05/01/99 - 04/30/00	grab	4	5.770	21.540	13.298	7.477	
TRACE ELEMENTS								
Total Mercury ($\mu\text{g/L}$)	05/01/97 - 04/30/98	grab	2	<0.2	<0.2	<0.2		Less than or equal to 0.012 ug/L
	05/01/98 - 04/30/99	grab	2	<0.2	<0.2	<0.2		
	05/01/99 - 04/30/00	grab	1	<0.2	<0.2	<0.2	0.000	
Total Cadmium ($\mu\text{g/L}$)	05/01/97 - 04/30/98	grab	2	<0.3	<0.3	<0.3		Less than or equal to calculated value using: $e^{(0.7852(\ln\text{Hardness})-3.49)}$
	05/01/98 - 04/30/99	grab	2	<0.3	<0.3	<0.3		
	05/01/99 - 04/30/00	grab	2	<0.3	<0.3	<0.3	0.000	
Total Copper ($\mu\text{g/L}$)	05/01/97 - 04/30/98	grab	2	<1.2	<1.2	<1.2		Less than or equal to calculated value using: $e^{(0.8546(\ln\text{Hardness})-1.46)}$
	05/01/98 - 04/30/99	grab	2	<1.2	<1.2	<1.2		
	05/01/99 - 04/30/00	grab	2	<1.2	<1.2	<1.2	0.000	
Total Zinc ($\mu\text{g/L}$)	05/01/97 - 04/30/98	grab	2	<4	<4	<4		Less than or equal to calculated value using: $e^{(0.9473(\ln\text{Hardness})+0.76)}$
	05/01/98 - 04/30/99	grab	2	<4	<4	<4		
	05/01/99 - 04/30/00	grab	2	<4	11.425	6.713	0.000	
Total Arsenic ($\mu\text{g/L}$)	05/01/97 - 04/30/98	grab	2	<1.5	1.630	<1.5		Less than or equal to 50 ug/L
	05/01/98 - 04/30/99	grab	2	<1.5	<1.5	<1.5		
	05/01/99 - 04/30/00	grab	2	<1.5	1.567	<1.5	0.000	
Total Lead ($\mu\text{g/L}$)	05/01/97 - 04/30/98	grab	2	<0.8	<0.8	<0.8		Less than or equal to calculated value using: $e^{(1.273(\ln\text{Hardness})-4.705)}$
	05/01/98 - 04/30/99	grab	2	<0.8	<0.8	<0.8		
	05/01/99 - 04/30/00	grab	2	<0.8	<0.8	<0.8	0.000	
Total Iron ($\mu\text{g/L}$)	05/01/97 - 04/30/98	grab	4	55.800	373.000	225.200	147.836	Less than or equal to 1,000 ug/L
	05/01/98 - 04/30/99	grab	4	69.400	337.000	214.600	122.886	
	05/01/99 - 04/30/00	grab	4	156.429	326.869	264.086	75.337	

Table 7. Summary of Water Quality Parameters Collected at Station L28U from August 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
PHYSICAL								
Dissolved Oxygen (mg/L)	08/01/97 - 04/30/98	no data	0					Not be less than 5.0 mg/L
	05/01/98 - 04/30/99	field	13	0.50	7.20	3.40	2.11	
	05/01/99 - 04/30/00	field	22	0.20	7.90	3.59	2.16	
Specific Conductivity ($\mu\text{mhos}/\text{cm}$)	08/01/97 - 04/30/98	field	6	501	645	578	47	Not greater than 50% above background or 1,275 $\mu\text{mhos}/\text{cm}$
	05/01/98 - 04/30/99	field	20	424	630	543	48	
	05/01/99 - 04/30/00	field	27	293	595	496	70	
pH (SU)	08/01/97 - 04/30/98	no data	0					Not less than 6.0 or greater than 8.5
	05/01/98 - 04/30/99	field	14	6.99	8.10	7.53	0.37	
	05/01/99 - 04/30/00	field	23	6.85	10.00	7.68	0.69	
Turbidity (NTU)	08/01/97 - 04/30/98	grab	11	<1	5.000	2.000	1.517	Less than or equal to 29 NTU above background
	05/01/98 - 04/30/99	grab	22	<1	3.000	<1	0.666	
	05/01/99 - 04/30/00	grab	26	0.480	8.200	1.582	1.432	
Total Suspended Solids (mg/L)	08/01/97 - 04/30/98	grab	2	2.000	5.000	3.500		Not applicable
	05/01/98 - 04/30/99	grab	4	2.000	9.000	4.250	3.202	
	05/01/99 - 04/30/00	grab	6	<1	7.600	3.300	2.686	
Hardness (as CaCO ₃) (mg CaCO ₃ /L)	08/01/97 - 04/30/98	grab	2	211.624	234.070	222.847		Not applicable
	05/01/98 - 04/30/99	grab	4	205.342	221.121	211.694	7.276	
	05/01/99 - 04/30/00	grab	4	145.519	222.409	188.629	31.849	
Alkalinity (mg/L)	08/01/97 - 04/30/98	grab	11	190.000	240.000	213.636	14.334	Not less than 20 mg/L
	05/01/98 - 04/30/99	grab	23	159.000	230.000	206.522	18.436	
	05/01/99 - 04/30/00	grab	27	119.000	224.000	192.370	28.139	
NUTRIENTS								
Total Nitrogen (mg/L)	08/01/97 - 04/30/98	composite&grab	40	<0.2	2.683	1.569	0.484	
	05/01/98 - 04/30/99	composite&grab	51	<0.2	3.234	1.438	0.511	
	05/01/99 - 04/30/00	grab	26	0.976	1.714	1.296	0.230	
Nitrate/Nitrite (as N) (mg N/L)	08/01/97 - 04/30/98	composite&grab	40	0.008	0.116	0.048	0.030	
	05/01/98 - 04/30/99	composite&grab	51	<0.002	0.816	0.044	0.113	
	05/01/99 - 04/30/00	grab	26	<0.004	0.069	0.020	0.021	
Ammonia (as N) (mg N/L)	08/01/97 - 04/30/98	composite&grab	40	0.036	0.238	0.110	0.053	
	05/01/98 - 04/30/99	composite&grab	50	0.014	0.246	0.106	0.052	
	05/01/99 - 04/30/00	grab	25	0.016	0.258	0.100	0.083	
Total Phosphorus (mg/L)	08/01/97 - 04/30/98	composite&grab	41	0.028	0.290	0.111	0.057	
	05/01/98 - 04/30/99	composite&grab	66	<0.002	0.419	0.097	0.070	
	05/01/99 - 04/30/00	composite&grab	82	0.016	0.530	0.099	0.091	
Ortho-Phosphate (as P) (mg P/L)	08/01/97 - 04/30/98	grab	11	0.020	0.062	0.037	0.015	
	05/01/98 - 04/30/99	grab	22	<0.001	0.090	0.021	0.022	
	05/01/99 - 04/30/00	grab	25	<0.004	0.282	0.035	0.056	
Dissolved Silica (mg/L)	08/01/97 - 04/30/98	grab	2	6.200	8.800	7.500		Not applicable
	05/01/98 - 04/30/99	grab	4	0.850	9.000	6.037	3.606	
	05/01/99 - 04/30/00	grab	4	3.200	8.400	5.650	2.169	

note: bold typed value exceeds Class III Criterion.

Table 7 (continued). Summary of Water Quality Parameters Collected at Station L28U from August 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
MAJOR IONS								
Dissolved Sodium (mg/L)	08/01/97 - 04/30/98	grab	2	26.000	27.000	26.500		Not applicable
	05/01/98 - 04/30/99	grab	4	22.000	38.000	28.000	7.118	
	05/01/99 - 04/30/00	grab	4	13.000	25.000	20.500	5.447	
Dissolved Potassium (mg/L)	08/01/97 - 04/30/98	grab	2	3.500	3.700	3.600		Not applicable
	05/01/98 - 04/30/99	grab	4	2.300	4.600	3.175	1.021	
	05/01/99 - 04/30/00	grab	4	2.600	3.100	2.950	0.238	
Dissolved Calcium (mg/L)	08/01/97 - 04/30/98	grab	2	77.000	85.000	81.000		Not applicable
	05/01/98 - 04/30/99	grab	4	73.000	78.000	75.750	2.217	
	05/01/99 - 04/30/00	grab	4	53.000	80.000	67.750	11.147	
Dissolved Magnesium (mg/L)	08/01/97 - 04/30/98	grab	2	4.700	5.300	5.000		Not applicable
	05/01/98 - 04/30/99	grab	4	4.700	6.400	5.475	0.718	
	05/01/99 - 04/30/00	grab	4	3.200	5.700	4.725	1.144	
Chlorides (mg/L)	08/01/97 - 04/30/98	grab	11	34.000	52.000	40.545	5.067	Not applicable
	05/01/98 - 04/30/99	grab	23	26.000	57.000	38.043	7.980	
	05/01/99 - 04/30/00	grab	27	15.000	50.000	32.370	8.073	
Sulfate (mg/L)	08/01/97 - 04/30/98	grab	2	11.000	17.000	14.000		Not applicable
	05/01/98 - 04/30/99	grab	4	1.000	17.000	8.300	6.584	
	05/01/99 - 04/30/00	grab	5	3.600	17.000	7.860	5.503	
TRACE ELEMENTS								
Total Mercury (µg/L)	08/01/97 - 04/30/98	grab	1	<0.1	<0.1	<0.1		
	05/01/98 - 04/30/99	grab	2	<0.1	<0.1	<0.1		
	05/01/99 - 04/30/00	grab	2	<0.1	<0.1	<0.1		
Total Cadmium (µg/L)	08/01/97 - 04/30/98	grab	1	<0.5	<0.5	<0.5		
	05/01/98 - 04/30/99	grab	2	<0.5	<0.5	<0.5		
	05/01/99 - 04/30/00	grab	2	<0.5	1.500	0.875		
Total Copper (µg/L)	08/01/97 - 04/30/98	grab	1	<1	<1	<1		
	05/01/98 - 04/30/99	grab	2	<1	<1	<1		
	05/01/99 - 04/30/00	grab	2	<1	<1	<1		
Total Zinc (µg/L)	08/01/97 - 04/30/98	grab	1	13.000	13.000	13.000		
	05/01/98 - 04/30/99	grab	2	9.000	24.000	16.500		
	05/01/99 - 04/30/00	grab	1	48.000	48.000	48.000		
Total Arsenic (µg/L)	08/01/97 - 04/30/98	grab	1	1.300	1.300	1.300		
	05/01/98 - 04/30/99	grab	2	1.100	2.000	1.550		
	05/01/99 - 04/30/00	grab	2	<1	2.500	1.500		
Total Lead (µg/L)	08/01/97 - 04/30/98	grab	1	<1	<1	<1		
	05/01/98 - 04/30/99	grab	2	<1	<1	<1		
	05/01/99 - 04/30/00	grab	2	<1	<1	<1		
Total Iron (µg/L)	08/01/97 - 04/30/98	grab	2	220.000	390.000	305.000		Less than or equal to 1,000 µg/L
	05/01/98 - 04/30/99	grab	4	45.000	390.000	183.750	146.366	
	05/01/99 - 04/30/00	grab	4	130.000	390.000	255.000	120.692	

Table 8. Summary of Water Quality Parameters Collected at Station S140 from May 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
PHYSICAL								
Dissolved Oxygen (mg/L)	05/01/97 - 04/30/98	field	18	1.59	6.04	3.47	1.55	Not be less than 5.0 mg/L
	05/01/98 - 04/30/99	field	15	0.78	7.12	2.97	2.19	
	05/01/99 - 04/30/00	field	20	0.60	6.48	2.84	2.02	
Specific Conductivity ($\mu\text{mhos}/\text{cm}$)	05/01/97 - 04/30/98	field	18	346	594	433	69	Not greater than 50% above background or 1,275 $\mu\text{mhos}/\text{cm}$
	05/01/98 - 04/30/99	field	15	353	515	436	50	
	05/01/99 - 04/30/00	field	19	219	511	388.158	77	
pH (SU)	05/01/97 - 04/30/98	field	18	6.42	7.45	7.15	0.24	Not less than 6.0 or greater than 8.5
	05/01/98 - 04/30/99	field	15	6.55	7.76	7.38	0.32	
	05/01/99 - 04/30/00	field	20	6.70	7.80	7.22	0.30	
Turbidity (NTU)	05/01/96 - 04/30/97	grab	18	0.687	3.110	1.093	0.545	Less than or equal to 29 NTU above background
	05/01/97 - 04/30/98	grab	15	0.641	2.440	1.396	0.628	
	05/01/99 - 04/30/00	grab	19	0.558	10.500	1.656	2.198	
Total Suspended Solids (mg/L)	05/01/96 - 04/30/97	grab	4	<3	<3	<3	Not applicable	Not applicable
	05/01/97 - 04/30/98	grab	4	<3	<3	<3		
	05/01/99 - 04/30/00	grab	19	<3	10.000	<3	1.950	
Hardness (as CaCO ₃) (mg CaCO ₃ /L)	05/01/96 - 04/30/97	grab	4	162.560	253.925	205.132	39.302	Not applicable
	05/01/97 - 04/30/98	grab	4	176.447	202.320	183.457	12.587	
	05/01/99 - 04/30/00	grab	4	132.900	202.023	173.954	32.135	
Alkalinity (mg/L)	05/01/96 - 04/30/97	grab	18	141.300	218.200	168.844	21.598	Not less than 20 mg/L
	05/01/97 - 04/30/98	grab	15	133.600	200.900	171.313	18.016	
	05/01/99 - 04/30/00	grab	19	87.080	217.400	160.520	33.177	
NUTRIENTS								
Total Nitrogen (mg/L)	05/01/97 - 04/30/98	grab	16	0.925	2.731	1.279	0.428	
	05/01/98 - 04/30/99	grab	14	0.777	1.607	1.230	0.268	
	05/01/99 - 04/30/00	grab	19	0.710	1.485	1.100	0.236	
Nitrate/Nitrite (as N) (mg N/L)	05/01/97 - 04/30/98	grab	16	0.018	0.591	0.081	0.138	
	05/01/98 - 04/30/99	grab	14	<0.004	0.059	0.023	0.018	
	05/01/99 - 04/30/00	grab	19	0.005	0.074	0.034	0.019	
Ammonia (as N) (mg N/L)	05/01/97 - 04/30/98	grab	16	<0.009	0.191	0.069	0.049	
	05/01/98 - 04/30/99	grab	15	<0.009	0.108	0.051	0.035	
	05/01/99 - 04/30/00	grab	19	<0.009	0.192	0.068	0.045	
Total Phosphorus (mg/L)	05/01/97 - 04/30/98	grab	17	0.025	0.053	0.036	0.008	
	05/01/98 - 04/30/99	grab	15	0.015	0.077	0.044	0.021	
	05/01/99 - 04/30/00	grab	19	0.021	0.298	0.060	0.063	
Ortho-Phosphate (as P) (mg P/L)	05/01/97 - 04/30/98	grab	18	0.009	0.049	0.020	0.010	
	05/01/98 - 04/30/99	grab	15	<0.004	0.066	0.022	0.019	
	05/01/99 - 04/30/00	grab	19	0.004	0.265	0.037	0.057	
Dissolved Silica (mg/L)	05/01/97 - 04/30/98	grab	4	4.670	9.398	6.699	1.989	Not applicable
	05/01/98 - 04/30/99	grab	4	3.737	10.513	7.094	3.379	
	05/01/99 - 04/30/00	grab	4	0.225	9.491	5.036	3.871	

note: bold typed value exceeds Class III Criterion.

Table 8 (continued). Summary of Water Quality Parameters Collected at Station S140 from May 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
MAJOR IONS								
Dissolved Sodium (mg/L)	05/01/97 - 04/30/98	grab	4	17.000	32.100	24.200	6.631	Not applicable
	05/01/98 - 04/30/99	grab	4	17.300	26.700	21.325	4.435	
	05/01/99 - 04/30/00	grab	4	10.532	22.189	16.721	5.123	
Dissolved Potassium (mg/L)	05/01/97 - 04/30/98	grab	4	2.300	2.960	2.472	0.325	Not applicable
	05/01/98 - 04/30/99	grab	4	1.230	3.690	2.193	1.067	
	05/01/99 - 04/30/00	grab	3	2.028	2.125	2.074	0.049	
Dissolved Calcium (mg/L)	05/01/97 - 04/30/98	grab	4	59.000	91.500	74.025	13.907	Not applicable
	05/01/98 - 04/30/99	grab	4	62.500	72.400	66.000	4.376	
	05/01/99 - 04/30/00	grab	4	48.540	72.428	62.838	11.092	
Dissolved Magnesium (mg/L)	05/01/97 - 04/30/98	grab	4	3.700	6.180	4.928	1.130	Not applicable
	05/01/98 - 04/30/99	grab	4	3.840	5.230	4.530	0.665	
	05/01/99 - 04/30/00	grab	4	2.840	5.141	4.140	1.083	
Chlorides (mg/L)	05/01/97 - 04/30/98	grab	18	17.707	41.187	26.289	6.226	Not applicable
	05/01/98 - 04/30/99	grab	15	16.331	44.257	26.957	8.335	
	05/01/99 - 04/30/00	grab	19	8.810	34.340	21.954	6.542	
Sulfate (mg/L)	05/01/97 - 04/30/98	grab	4	5.436	10.074	7.428	2.093	Not applicable
	05/01/98 - 04/30/99	grab	4	2.654	16.687	7.217	6.449	
	05/01/99 - 04/30/00	grab	3	4.020	8.230	6.067	2.107	
TRACE ELEMENTS								
Total Mercury (µg/L)	05/01/97 - 04/30/98	grab	2	<0.2	<0.2	<0.2		Less than or equal to 0.012 µg/L
	05/01/98 - 04/30/99	grab	2	<0.2	<0.2	<0.2		
	05/01/99 - 04/30/00	grab	2	<0.1	<0.1	<0.1	0.000	
Total Cadmium (µg/L)	05/01/97 - 04/30/98	grab	2	<0.3	<0.3	<0.3		Less than or equal to calculated value using: e ^{(0.7852 ln Hardness) - 3.49}
	05/01/98 - 04/30/99	grab	2	<0.3	<0.3	<0.3		
	05/01/99 - 04/30/00	grab	2	<0.3	<0.3	<0.3	0.000	
Total Copper (µg/L)	05/01/97 - 04/30/98	grab	2	<1.2	1.680	<1.2		Less than or equal to calculated value using: e ^{(0.5545 ln Hardness) - 1.466}
	05/01/98 - 04/30/99	grab	2	<1.2	<1.2	<1.2		
	05/01/99 - 04/30/00	grab	2	<1.2	<1.2	<1.2	0.000	
Total Zinc (µg/L)	05/01/97 - 04/30/98	grab	2	<4	<4	<4		Less than or equal to calculated value using: e ^{(0.8473 ln Hardness) + 0.78}
	05/01/98 - 04/30/99	grab	2	6.450	7.700	7.075		
	05/01/99 - 04/30/00	grab	2	<4	7.131	4.566	0.000	
Total Arsenic (µg/L)	05/01/97 - 04/30/98	grab	2	<1.5	1.840	<1.5		Less than or equal to 50 µg/L
	05/01/98 - 04/30/99	grab	2	<1.5	1.690	<1.5		
	05/01/99 - 04/30/00	grab	2	<1.5	2.536	1.643	0.000	
Total Lead (µg/L)	05/01/97 - 04/30/98	grab	2	<0.8	<0.8	<0.8		Less than or equal to calculated value using: e ^{(1.273 ln Hardness) - 4.705}
	05/01/98 - 04/30/99	grab	2	<0.8	<0.8	<0.8		
	05/01/99 - 04/30/00	grab	2	<0.8	<0.8	<0.8	0.000	
Total Iron (µg/L)	05/01/97 - 04/30/98	grab	4	156.000	383.000	232.250	103.879	Less than or equal to 1,000 µg/L
	05/01/98 - 04/30/99	grab	4	77.500	302.000	182.625	96.981	
	05/01/99 - 04/30/00	grab	4	89.551	321.870	255.645	111.736	

Table 9. Summary of Water Quality Parameters Collected at Station WWEIR from May 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
PHYSICAL								
Dissolved Oxygen (mg/L)	05/01/97 - 04/30/98	field	61	0.17	5.59	2.43	1.38	Not be less than 5.0 mg/L
	05/01/98 - 04/30/99	field	54	0.54	7.17	3.44	1.50	
	05/01/99 - 04/30/00	field	52	1.02	5.64	3.21	1.37	
Specific Conductivity ($\mu\text{mhos}/\text{cm}$)	05/01/97 - 04/30/98	field	60	345	772	630	91	Not greater than 50% above background or 1,275 $\mu\text{mhos}/\text{cm}$
	05/01/98 - 04/30/99	field	54	269	810	667	111	
	05/01/99 - 04/30/00	field	51	227	805	620	153	
pH (SU)	05/01/97 - 04/30/98	field	61	6.52	7.79	7.10	0.26	Not less than 6.0 or greater than 8.5
	05/01/98 - 04/30/99	field	54	4.30	7.81	7.27	0.53	
	05/01/99 - 04/30/00	field	52	6.33	8.04	7.28	0.30	
Turbidity (NTU)	05/01/96 - 04/30/97		0					Less than or equal to 29 NTU above background
	05/01/97 - 04/30/98		0					
	05/01/99 - 04/30/00		0					
Total Suspended Solids (mg/L)	05/01/96 - 04/30/97		0					Not applicable
	05/01/97 - 04/30/98		0					
	05/01/99 - 04/30/00		0					
Hardness (as CaCO ₃) (mg CaCO ₃ /L)	05/01/96 - 04/30/97		0					Not applicable
	05/01/97 - 04/30/98		0					
	05/01/99 - 04/30/00		0					
Alkalinity (mg/L)	05/01/96 - 04/30/97		0					Not less than 20 mg/L
	05/01/97 - 04/30/98		0					
	05/01/99 - 04/30/00		0					
NUTRIENTS								
Total Nitrogen (mg/L)	05/01/97 - 04/30/98	composite&grab	50	0.822	2.224	1.442	0.312	
	05/01/98 - 04/30/99	composite&grab	33	1.021	1.837	1.352	0.227	
	05/01/99 - 04/30/00	composite	33	0.831	1.469	1.102	0.132	
Nitrate/Nitrite (as N) (mg N/L)	05/01/97 - 04/30/98	composite&grab	51	<0.004	0.052	0.020	0.014	
	05/01/98 - 04/30/99	composite&grab	33	0.004	0.133	0.031	0.023	
	05/01/99 - 04/30/00	composite	33	<0.004	0.048	0.023	0.012	
Ammonia (as N) (mg N/L)	05/01/97 - 04/30/98	composite&grab	53	<0.009	0.803	0.180	0.149	
	05/01/98 - 04/30/99	composite&grab	33	0.016	0.589	0.172	0.147	
	05/01/99 - 04/30/00	composite	33	0.015	0.116	0.051	0.025	
Total Phosphorus (mg/L)	05/01/97 - 04/30/98	composite&grab	130	0.011	0.112	0.032	0.016	
	05/01/98 - 04/30/99	composite&grab	104	0.015	0.103	0.042	0.018	
	05/01/99 - 04/30/00	composite&grab	84	0.017	0.144	0.041	0.021	
Ortho-Phosphate (as P) (mg P/L)	05/01/97 - 04/30/98		0					
	05/01/98 - 04/30/99		0					
	05/01/99 - 04/30/00		0					
Dissolved Silica (mg/L)	05/01/97 - 04/30/98		0					Not applicable
	05/01/98 - 04/30/99		0					
	05/01/99 - 04/30/00		0					

note: bold typed value exceeds Class III Criterion.

Table 10. Summary of Water Quality Parameters Collected at Station NFEED from May 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
PHYSICAL								
Dissolved Oxygen (mg/L)	05/01/97 - 04/30/98	field	47	1.21	7.31	4.42	1.51	Not be less than 5.0 mg/L
	05/01/98 - 04/30/99	field	52	0.43	9.64	4.49	1.86	
	05/01/99 - 04/30/00	field	52	0.53	10.50	5.54	2.66	
Specific Conductivity ($\mu\text{mhos}/\text{cm}$)	05/01/97 - 04/30/98	field	46	328	512	441	34	Not greater than 50% above background or 1,275 $\mu\text{mhos}/\text{cm}$
	05/01/98 - 04/30/99	field	52	289	619	482	55	
	05/01/99 - 04/30/00	field	52	288	615	501	69	
pH (SU)	05/01/97 - 04/30/98	field	47	6.51	7.82	7.23	0.27	Not less than 6.0 or greater than 8.5
	05/01/98 - 04/30/99	field	52	3.97	8.05	7.34	0.57	
	05/01/99 - 04/30/00	field	52	6.14	8.46	7.56	0.46	
Turbidity (NTU)	05/01/96 - 04/30/97		0					Less than or equal to 29 NTU above background
	05/01/97 - 04/30/98		0					
	05/01/99 - 04/30/00		0					
Total Suspended Solids (mg/L)	05/01/96 - 04/30/97		0					Not applicable
	05/01/97 - 04/30/98		0					
	05/01/99 - 04/30/00		0					
Hardness (as CaCO ₃) (mg CaCO ₃ /L)	05/01/96 - 04/30/97		0					Not applicable
	05/01/97 - 04/30/98		0					
	05/01/99 - 04/30/00		0					
Alkalinity (mg/L)	05/01/96 - 04/30/97		0					Not less than 20 mg/L
	05/01/97 - 04/30/98		0					
	05/01/99 - 04/30/00		0					
NUTRIENTS								
Total Nitrogen (mg/L)	05/01/97 - 04/30/98	composite	34	0.698	5.333	1.650	0.968	
	05/01/98 - 04/30/99	composite&grab	37	1.006	3.167	1.526	0.376	
	05/01/99 - 04/30/00	composite	45	0.812	1.836	1.291	0.224	
Nitrate/Nitrite (as N) (mg N/L)	05/01/97 - 04/30/98	composite&grab	37	<0.004	0.202	0.039	0.041	
	05/01/98 - 04/30/99	composite	52	<0.004	0.100	0.011	0.013	
	05/01/99 - 04/30/00	composite	46	<0.004	0.127	0.027	0.033	
(mg N/L)	05/01/97 - 04/30/98	composite&grab	36	0.024	0.211	0.084	0.039	
	05/01/98 - 04/30/99	composite	52	<0.009	0.193	0.044	0.039	
	05/01/99 - 04/30/00	composite	46	<0.009	0.153	0.056	0.043	
Total Phosphorus (mg/L)	05/01/97 - 04/30/98	composite&grab	86	0.047	0.297	0.126	0.057	
	05/01/98 - 04/30/99	composite&grab	104	0.004	0.309	0.084	0.055	
	05/01/99 - 04/30/00	composite&grab	97	0.030	0.349	0.103	0.061	
Ortho-Phosphate (as P) (mg P/L)	05/01/97 - 04/30/98		0					
	05/01/98 - 04/30/99		0					
	05/01/99 - 04/30/00		0					
Dissolved Silica (mg/L)	05/01/97 - 04/30/98		0					Not applicable
	05/01/98 - 04/30/99		0					
	05/01/99 - 04/30/00		0					

note: bold typed value exceeds Class III Criterion.

Table 11. Summary of Water Quality Parameters Collected at Station S190 from May 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
PHYSICAL								
Dissolved Oxygen (mg/L)	05/01/97 - 04/30/98	field	14	0.74	7.26	4.74	1.78	Not be less than 5.0 mg/L
	05/01/98 - 04/30/99	field	14	2.31	7.28	4.50	1.56	
	05/01/99 - 04/30/00	field	17	1.58	10.31	5.20	3.05	
Specific Conductivity ($\mu\text{mhos}/\text{cm}$)	05/01/97 - 04/30/98	field	14	495	689	576	63	Not greater than 50% above background or 1,275 $\mu\text{mhos}/\text{cm}$
	05/01/98 - 04/30/99	field	14	435	790	596	95	
	05/01/99 - 04/30/00	field	17	305	720	534	122	
pH (SU)	05/01/97 - 04/30/98	field	14	6.21	7.65	7.30	0.36	Not less than 6.0 or greater than 8.5
	05/01/98 - 04/30/99	field	14	6.92	7.90	7.44	0.27	
	05/01/99 - 04/30/00	field	17	6.35	8.19	7.52	0.46	
Turbidity (NTU)	05/01/96 - 04/30/97	grab	14	0.797	6.520	1.997	1.399	Less than or equal to 29 NTU above background
	05/01/97 - 04/30/98	grab	14	0.169	30.400	3.643	7.723	
	05/01/99 - 04/30/00	grab	18	1.010	4.680	2.269	1.042	
Total Suspended Solids (mg/L)	05/01/96 - 04/30/97	grab	4	-3.000	14.000	4.625	6.250	Not applicable
	05/01/97 - 04/30/98	grab	4	-3.000	3.000	-3.000	0.750	
	05/01/99 - 04/30/00	grab	18	-3.000	13.000	-3.000	2.930	
Hardness (as CaCO ₃) (mg CaCO ₃ /L)	05/01/96 - 04/30/97	grab	4	221.919	283.906	258.600	27.171	Not applicable
	05/01/97 - 04/30/98	grab	4	229.907	299.962	266.031	35.361	
	05/01/99 - 04/30/00	grab	4	162.793	278.466	231.519	51.193	
Alkalinity (mg/L)	05/01/96 - 04/30/97	grab	14	194.300	258.700	226.807	23.485	Not less than 20 mg/L
	05/01/97 - 04/30/98	grab	14	176.700	307.400	234.236	39.845	
	05/01/99 - 04/30/00	grab	18	118.000	276.900	216.006	46.108	
NUTRIENTS								
Total Nitrogen (mg/L)	05/01/97 - 04/30/98	grab	12	0.835	1.714	1.262	0.238	
	05/01/98 - 04/30/99	grab	13	0.957	2.628	1.280	0.440	
	05/01/99 - 04/30/00	grab	18	0.871	1.379	1.028	0.122	
Nitrate/Nitrite (as N) (mg N/L)	05/01/97 - 04/30/98	grab	13	0.010	0.178	0.045	0.046	
	05/01/98 - 04/30/99	grab	13	-0.004	0.226	0.034	0.060	
	05/01/99 - 04/30/00	grab	18	-0.004	0.052	0.015	0.014	
Ammonia (as N) (mg N/L)	05/01/97 - 04/30/98	grab	13	-0.009	0.114	0.034	0.032	
	05/01/98 - 04/30/99	grab	14	-0.009	0.105	0.017	0.027	
	05/01/99 - 04/30/00	grab	18	-0.009	0.095	0.030	0.035	
Total Phosphorus (mg/L)	05/01/97 - 04/30/98	grab	13	0.025	0.177	0.078	0.042	
	05/01/98 - 04/30/99	grab	14	0.019	0.139	0.055	0.035	
	05/01/99 - 04/30/00	grab	18	0.034	0.179	0.071	0.044	
Ortho-Phosphate (as P) (mg P/L)	05/01/97 - 04/30/98	grab	13	0.004	0.099	0.034	0.030	
	05/01/98 - 04/30/99	grab	14	0.004	0.072	0.020	0.020	
	05/01/99 - 04/30/00	grab	18	0.005	0.146	0.033	0.043	
Dissolved Silica (mg/L)	05/01/97 - 04/30/98	grab	4	6.888	11.233	9.483	1.883	Not applicable
	05/01/98 - 04/30/99	grab	4	8.603	12.405	10.051	1.725	
	05/01/99 - 04/30/00	grab	4	4.065	9.151	7.074	2.146	

note: bold typed value exceeds Class III Criterion.

Table 11 (continued). Summary of Water Quality Parameters Collected at Station S190 from May 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
MAJOR IONS								
Dissolved Sodium (mg/L)	05/01/97 - 04/30/98	grab	3	29.000	44.600	35.600	8.072	Not applicable
	05/01/98 - 04/30/99	grab	4	27.300	48.000	35.475	8.816	
	05/01/99 - 04/30/00	grab	4	15.057	45.278	28.420	12.714	
Dissolved Potassium (mg/L)	05/01/97 - 04/30/98	grab	4	2.110	3.200	2.670	0.470	Not applicable
	05/01/98 - 04/30/99	grab	4	1.710	3.100	2.495	0.578	
	05/01/99 - 04/30/00	grab	4	1.709	3.078	2.240	0.590	
Dissolved Calcium (mg/L)	05/01/97 - 04/30/98	grab	4	77.000	101.000	90.775	10.090	Not applicable
	05/01/98 - 04/30/99	grab	4	81.700	104.000	93.450	12.221	
	05/01/99 - 04/30/00	grab	4	57.967	96.026	81.414	17.171	
Dissolved Magnesium (mg/L)	05/01/97 - 04/30/98	grab	4	6.800	9.320	7.755	1.106	Not applicable
	05/01/98 - 04/30/99	grab	4	6.290	9.780	7.938	1.434	
	05/01/99 - 04/30/00	grab	4	4.383	9.395	6.855	2.114	
Chlorides (mg/L)	05/01/97 - 04/30/98	grab	14	30.155	58.613	39.646	8.406	Not applicable
	05/01/98 - 04/30/99	grab	14	19.785	70.061	42.112	12.871	
	05/01/99 - 04/30/00	grab	18	16.340	61.240	37.135	13.421	
Sulfate (mg/L)	05/01/97 - 04/30/98	grab	4	7.068	11.977	9.501	2.059	Not applicable
	05/01/98 - 04/30/99	grab	4	10.018	14.035	11.343	1.829	
	05/01/99 - 04/30/00	grab	4	6.280	12.670	9.215	2.799	
TRACE ELEMENTS								
Total Mercury (µg/L)	05/01/97 - 04/30/98	grab	2	<0.2	<0.2	<0.2		Less than or equal to 0.012 µg/L
	05/01/98 - 04/30/99	grab	2	<0.2	<0.2	<0.2		
	05/01/99 - 04/30/00	grab	1	<0.2	<0.2	<0.2		
Total Cadmium (µg/L)	05/01/97 - 04/30/98	grab	2	<0.3	0.391	<0.3		Less than or equal to calculated value using: $e^{(0.7852 \ln[\text{Hardness}] - 3.49)}$
	05/01/98 - 04/30/99	grab	2	<0.3	<0.3	<0.3		
	05/01/99 - 04/30/00	grab	2	<0.3	<0.3	<0.3		
Total Copper (µg/L)	05/01/97 - 04/30/98	grab	2	<1.2	1.550	<1.2		Less than or equal to calculated value using: $e^{(0.8545 \ln[\text{Hardness}] - 1.465)}$
	05/01/98 - 04/30/99	grab	2	<1.2	<1.2	<1.2		
	05/01/99 - 04/30/00	grab	2	<1.2	<1.2	<1.2		
Total Zinc (µg/L)	05/01/97 - 04/30/98	grab	2	<4	<4	<4		Less than or equal to calculated value using: $e^{(0.8473 \ln[\text{Hardness}] + 0.7614)}$
	05/01/98 - 04/30/99	grab	2	<4	<4	<4		
	05/01/99 - 04/30/00	grab	2	<4	7.715	4.858		
Total Arsenic (µg/L)	05/01/97 - 04/30/98	grab	2	<1.5	<1.5	<1.5		Less than or equal to 50 µg/L
	05/01/98 - 04/30/99	grab	2	<1.5	<1.5	<1.5		
	05/01/99 - 04/30/00	grab	2	<1.5	1.752	<1.5		
Total Lead (µg/L)	05/01/97 - 04/30/98	grab	2	<0.8	<0.8	<0.8		Less than or equal to calculated value using: $e^{(1.273 \ln[\text{Hardness}] - 4.705)}$
	05/01/98 - 04/30/99	grab	2	<0.8	<0.8	<0.8		
	05/01/99 - 04/30/00	grab	2	<0.8	<0.8	<0.8		
Total Iron (µg/L)	05/01/97 - 04/30/98	grab	4	119.000	841.000	354.000	329.878	Less than or equal to 1,000 µg/L
	05/01/98 - 04/30/99	grab	4	50.200	249.000	139.550	82.035	
	05/01/99 - 04/30/00	grab	4	102.344	366.588	206.824	117.775	

Table 12. Summary of Water Quality Parameters Collected at Station L28IN from August 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
PHYSICAL								
Dissolved Oxygen (mg/L)	08/01/97 - 04/30/98	no data	0					Not be less than 5.0 mg/L
	05/01/98 - 04/30/99	field	14	1.80	8.20	5.49	2.20	
	05/01/99 - 04/30/00	field	20	1.10	8.40	5.69	1.96	
Specific Conductivity ($\mu\text{mhos}/\text{cm}$)	08/01/97 - 04/30/98	field	6	590	696	646	41	Not greater than 50% above background or $1.275 \mu\text{mhos}/\text{cm}$
	05/01/98 - 04/30/99	field	19	399	732	621	83	
	05/01/99 - 04/30/00	field	26	329	646	535	77	
pH (SU)	08/01/97 - 04/30/98	no data	0					Not less than 6.0 or greater than 8.5
	05/01/98 - 04/30/99	field	14	7.00	8.68	7.74	0.47	
	05/01/99 - 04/30/00	field	22	5.29	11.00	7.96	0.99	
Turbidity (NTU)	08/01/97 - 04/30/98	grab	9	<1	3.000	1.944	0.635	Less than or equal to 29 NTU above background
	05/01/98 - 04/30/99	grab	20	<1	3.000	1.355	0.684	
	05/01/99 - 04/30/00	grab	23	0.090	4.500	2.034	1.220	
Total Suspended Solids (mg/L)	08/01/97 - 04/30/98	grab	1	<1	<1	<1		Not applicable
	05/01/98 - 04/30/99	grab	3	2.000	8.000	4.333	3.215	
	05/01/99 - 04/30/00	grab	7	1.100	5.600	3.671	1.569	
Hardness (as CaCO ₃) (mg CaCO ₃ /L)	08/01/97 - 04/30/98	grab	1	261.897	261.897	261.897		Not applicable
	05/01/98 - 04/30/99	grab	4	201.557	260.995	238.581	26.529	
	05/01/99 - 04/30/00	grab	4	179.574	254.844	213.965	33.037	
Alkalinity (mg/L)	08/01/97 - 04/30/98	grab	9	200.000	280.000	244.444	26.034	Not less than 20 mg/L
	05/01/98 - 04/30/99	grab	20	162.000	285.000	247.650	32.511	
	05/01/99 - 04/30/00	grab	26	127.000	256.000	217.846	34.056	
NUTRIENTS								
Total Nitrogen (mg/L)	08/01/97 - 04/30/98	composite&grab	35	<0.2	2.388	1.376	0.420	
	05/01/98 - 04/30/99	composite&grab	42	<0.2	2.486	1.297	0.488	
	05/01/99 - 04/30/00	grab	24	0.770	1.302	0.973	0.147	
Nitrate/Nitrite (as N) (mg N/L)	08/01/97 - 04/30/98	composite&grab	35	<0.002	0.288	0.076	0.061	
	05/01/98 - 04/30/99	composite&grab	43	<0.002	0.110	0.040	0.032	
	05/01/99 - 04/30/00	grab	24	<0.004	0.076	0.012	0.018	
Ammonia (as N) (mg N/L)	08/01/97 - 04/30/98	composite&grab	30	0.020	0.162	0.060	0.027	
	05/01/98 - 04/30/99	composite&grab	42	0.008	0.196	0.065	0.038	
	05/01/99 - 04/30/00	grab	24	0.012	0.138	0.034	0.034	
Total Phosphorus (mg/L)	08/01/97 - 04/30/98	composite&grab	35	0.014	0.231	0.099	0.046	
	05/01/98 - 04/30/99	composite&grab	59	0.008	0.258	0.097	0.064	
	05/01/99 - 04/30/00	composite&grab	65	0.015	0.162	0.073	0.036	
Ortho-Phosphate (as P) (mg P/L)	08/01/97 - 04/30/98	grab	7	0.008	0.040	0.020	0.010	
	05/01/98 - 04/30/99	grab	20	<0.001	0.072	0.009	0.016	
	05/01/99 - 04/30/00	grab	23	<0.004	0.123	0.024	0.034	
Dissolved Silica (mg/L)	08/01/97 - 04/30/98	grab	1	6.400	6.400	6.400		Not applicable
	05/01/98 - 04/30/99	grab	4	2.800	10.000	7.350	3.164	
	05/01/99 - 04/30/00	grab	4	3.900	8.900	6.725	2.246	

note: bold typed value exceeds Class III Criterion.

Table 12(continued). Summary of Water Quality Parameters Collected at Station L28IN from August 1997 through April 2000.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
MAJOR IONS								
Dissolved Sodium (mg/L)	08/01/97 - 04/30/98	grab	1	26.000	26.000	26.000		Not applicable
	05/01/98 - 04/30/99	grab	4	26.000	35.000	28.500	4.359	
	05/01/99 - 04/30/00	grab	4	17.000	23.000	20.500	2.517	
Dissolved Potassium (mg/L)	08/01/97 - 04/30/98	grab	1	2.500	2.500	2.500		Not applicable
	05/01/98 - 04/30/99	grab	4	1.600	2.500	2.000	0.392	
	05/01/99 - 04/30/00	grab	4	2.000	3.100	2.400	0.523	
Dissolved Calcium (mg/L)	08/01/97 - 04/30/98	grab	1	94.000	94.000	94.000		Not applicable
	05/01/98 - 04/30/99	grab	4	70.000	91.000	84.250	9.912	
	05/01/99 - 04/30/00	grab	4	64.000	92.000	76.000	12.356	
Dissolved Magnesium (mg/L)	08/01/97 - 04/30/98	grab	1	6.600	6.600	6.600		Not applicable
	05/01/98 - 04/30/99	grab	4	6.200	8.200	6.850	0.911	
	05/01/99 - 04/30/00	grab	4	4.800	6.700	5.875	0.793	
Chlorides (mg/L)	08/01/97 - 04/30/98	grab	9	0.400	52.000	37.489	14.783	Not applicable
	05/01/98 - 04/30/99	grab	20	20.000	54.000	42.250	8.284	
	05/01/99 - 04/30/00	grab	25	17.000	54.000	33.320	9.788	
Sulfate (mg/L)	08/01/97 - 04/30/98	grab	1	10.000	10.000	10.000		Not applicable
	05/01/98 - 04/30/99	grab	4	7.000	9.300	8.000	1.134	
	05/01/99 - 04/30/00	grab	5	4.400	10.000	6.380	2.145	
TRACE ELEMENTS								
Total Mercury (µg/L)	08/01/97 - 04/30/98	grab	1	<0.1	<0.1	<0.1		
	05/01/98 - 04/30/99	grab	2	<0.1	<0.1	<0.1		
	05/01/99 - 04/30/00	grab	2	<0.1	<0.1	<0.1		
Total Cadmium (µg/L)	08/01/97 - 04/30/98	grab	1	<0.5	<0.5	<0.5		
	05/01/98 - 04/30/99	grab	2	<0.5	<0.5	<0.5		
	05/01/99 - 04/30/00	grab	2	<0.5	2.600	1.425		
Total Copper (µg/L)	08/01/97 - 04/30/98	grab	1	<1	<1	<1		
	05/01/98 - 04/30/99	grab	1	1.400	1.400	1.400		
	05/01/99 - 04/30/00	grab	2	<1	1.700	1.100		
Total Zinc (µg/L)	08/01/97 - 04/30/98	no data	0					
	05/01/98 - 04/30/99	grab	1	17.000	17.000	17.000		
	05/01/99 - 04/30/00	grab	1	70.000	70.000	70.000		
Total Arsenic (µg/L)	08/01/97 - 04/30/98	grab	1	2.000	2.000	2.000		
	05/01/98 - 04/30/99	grab	2	1.300	2.000	1.650		
	05/01/99 - 04/30/00	grab	2	1.300	1.500	1.400		
Total Lead (µg/L)	08/01/97 - 04/30/98	grab	1	<1	<1	<1		
	05/01/98 - 04/30/99	grab	1	<1	<1	<1		
	05/01/99 - 04/30/00	grab	2	<1	<1	<1		
Total Iron (µg/L)	08/01/97 - 04/30/98	grab	1	240.000	240.000	240.000		Less than or equal to 1,000 µg/L
	05/01/98 - 04/30/99	grab	3	50.000	370.000	186.667	165.025	
	05/01/99 - 04/30/00	grab	4	140.000	350.000	242.500	118.427	

Table 13. Summary of Water Quality Parameters Collected at Station L28IS from March 1998 through October 1999.

PARAMETER	PERIOD	SAMPLE TYPE	SAMPLE N	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION	CLASS III CRITERIA
PHYSICAL								
Dissolved Oxygen (mg/L)	03/01/98 - 04/30/98	no data	0					Not be less than 5.0 mg/L
	05/01/98 - 04/30/99	no data	0					
	05/01/99 - 10/29/00	no data	0					
Specific Conductivity ($\mu\text{mhos}/\text{cm}$)	03/01/98 - 04/30/98	field	7	542	596	574	21	Not greater than 50% above background or 1,275 $\mu\text{mhos}/\text{cm}$
	05/01/98 - 04/30/99	field	45	301	636	541	72	
	05/01/99 - 10/29/00	no data	0					
pH (SU)	03/01/98 - 04/30/98	no data	0					Not less than 6.0 or greater than 8.5
	05/01/98 - 04/30/99	field	45	6.00	8.20	7.06	0.53	
	05/01/99 - 10/29/00	no data	0					
Turbidity (NTU)	03/01/98 - 04/30/98	no data	0					Less than or equal to 29 NTU above background
	05/01/98 - 04/30/99	composite&grab	48	0.810	3.900	2.339	0.695	
	05/01/99 - 10/29/00	composite&grab	37	0.780	8.300	2.646	1.506	
Total Organic Carbon (mg/L)	03/01/98 - 04/30/98	no data	0					Not applicable
	05/01/98 - 04/30/99	no data	0					
	05/01/99 - 10/29/99	grab	20	13.485	68.665	19.678	11.687	
Hardness (as CaCO ₃) (mg CaCO ₃ /L)	03/01/98 - 04/30/98	no data	0					Not applicable
	05/01/98 - 04/30/99	no data	0					
	05/01/99 - 10/29/99	no data	0					
Alkalinity (mg/L)	03/01/98 - 04/30/98	no data	0					Not less than 20 mg/L
	05/01/98 - 04/30/99	no data	0					
	05/01/99 - 10/29/99	no data	0					
NUTRIENTS								
Total Nitrogen (mg/L)	03/01/98 - 04/30/98	no data	0					
	05/01/98 - 04/30/99	no data	0					
	05/01/99 - 10/29/99	composite&grab	37	0.791	1.306	1.037	0.118	
Nitrate/Nitrite (as N) (mg N/L)	03/01/98 - 04/30/98	no data	0					
	05/01/98 - 04/30/99	no data	0					
	05/01/99 - 10/29/99	grab	19	0.002	0.097	0.013	0.023	
Ammonia (as N) (mg N/L)	03/01/98 - 04/30/98	no data	0					
	05/01/98 - 04/30/99	no data	0					
	05/01/99 - 10/29/99	grab	19	0.012	0.397	0.087	0.094	
Total Phosphorus (mg/L)	03/01/98 - 04/30/98	composite	7	0.041	0.095	0.056	0.020	
	05/01/98 - 04/30/99	composite&grab	70	0.007	0.420	0.053	0.052	
	05/01/99 - 10/29/99	composite&grab	37	0.005	0.167	0.055	0.036	
Ortho-Phosphate (as P) (mg P/L)	03/01/98 - 04/30/98	grab	6	0.002	0.009	0.004	0.003	
	05/01/98 - 04/30/99	grab	40	0.001	0.057	0.010	0.013	
	05/01/99 - 10/29/99	grab	19	0.002	0.070	0.018	0.021	
Dissolved Silica (mg/L)	03/01/98 - 04/30/98		0					
	05/01/98 - 04/30/99		0					
	05/01/99 - 10/29/99		0					

Table 14. Trace Metal Concentrations above the Method Detection Limit and Compared with Class III Standard from May 1997 through April 2000.

STATION	PARAMETER	DATE	CONCENTRATION µg/L	WATER HARDNESS mg/L	CLASS III
USSO	TOTAL ZINC	15-Jul-99	11.425	195.391	186.963
S190	TOTAL CADMIUM	10-Jul-97	0.391	221.919	2.121
	TOTAL COPPER	15-Jan-98	1.550	283.906	28.840
	TOTAL ZINC	15-Jul-99	7.715	223.731	209.698
S140	TOTAL COPPER	29-Jan-98	1.680	253.925	26.217
	TOTAL ZINC	30-Jul-98	7.700	202.320	192.565
		28-Jan-99	6.450	177.691	172.509
		31-Jan-00	7.131	196.883	188.172
L3BRS	TOTAL CADMIUM	10-Jul-97	0.403	98.899	1.124
	TOTAL COPPER	10-Jul-97	1.740	98.899	11.713
		15-Jan-98	2.700	240.290	25.009
		16-Jul-98	3.930	163.379	17.986
		28-Jan-99	1.220	256.872	26.477
	TOTAL ZINC	16-Jul-98	5.600	163.379	160.662
		15-Jul-99	6.311	137.509	138.829
L28U	TOTAL CADMIUM	5-Jan-00	1.500	222.409	2.125
	TOTAL ZINC	8-Jan-98	13.000	234.070	217.881
		1-Jul-98	9.000	221.121	207.624
		6-Jan-99	24.000	213.683	201.690
		5-Jan-00	48.000	222.409	208.648
L28IN	TOTAL CADMIUM	6-Jan-99	0.500	253.994	2.358
		5-Jan-00	2.600	254.844	2.364
	TOTAL COPPER	6-Jan-99	1.400	253.994	26.223
		7-Jul-99	1.700	196.589	21.067
	TOTAL ZINC	6-Jan-99	17.000	253.994	233.496
		5-Jan-00	70.000	254.844	234.157

note: bold typed value exceeds Class III Criterion.

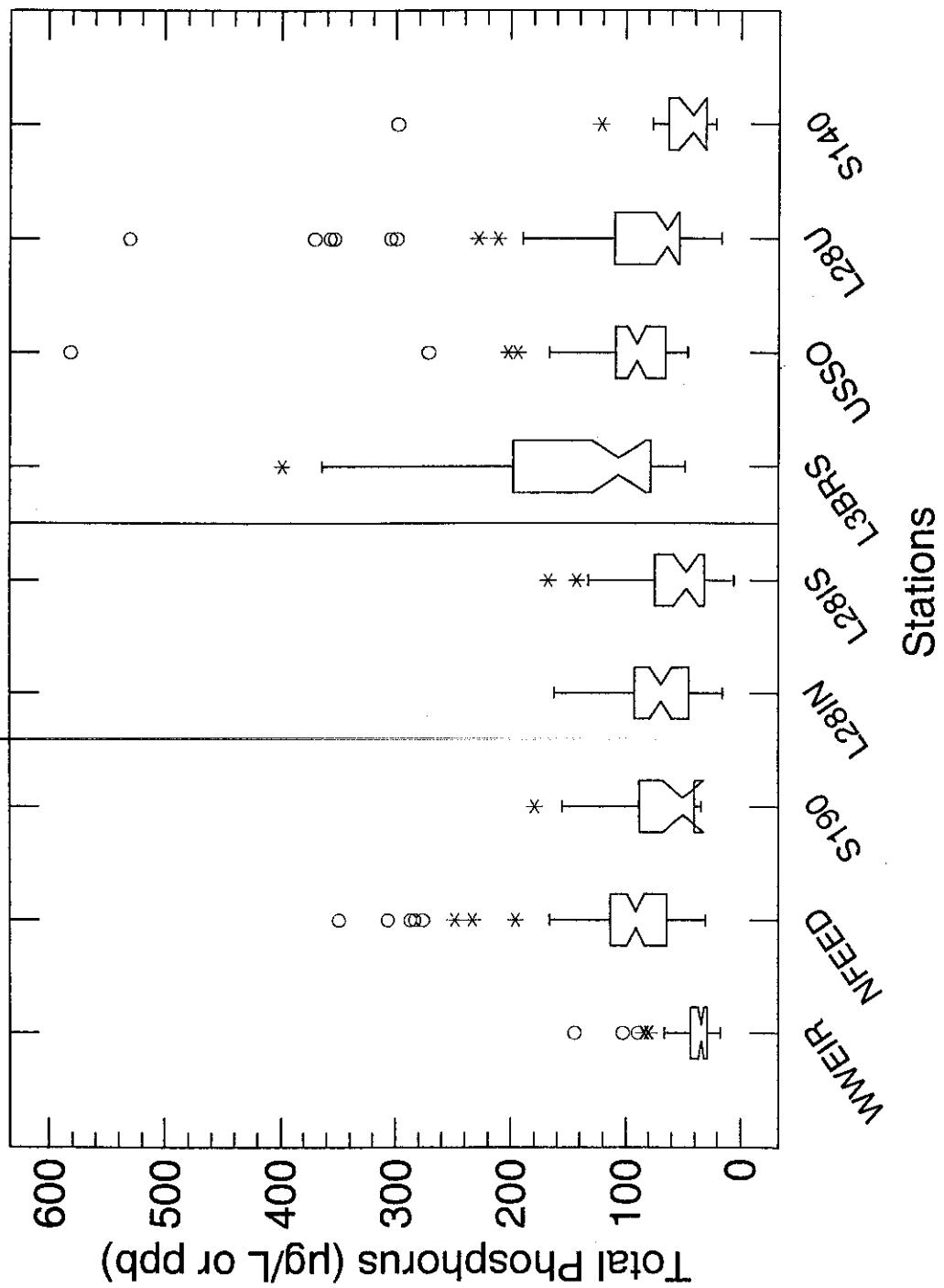


Figure 15. Comparison of Total Phosphorus (TP) Concentrations and Median Values.

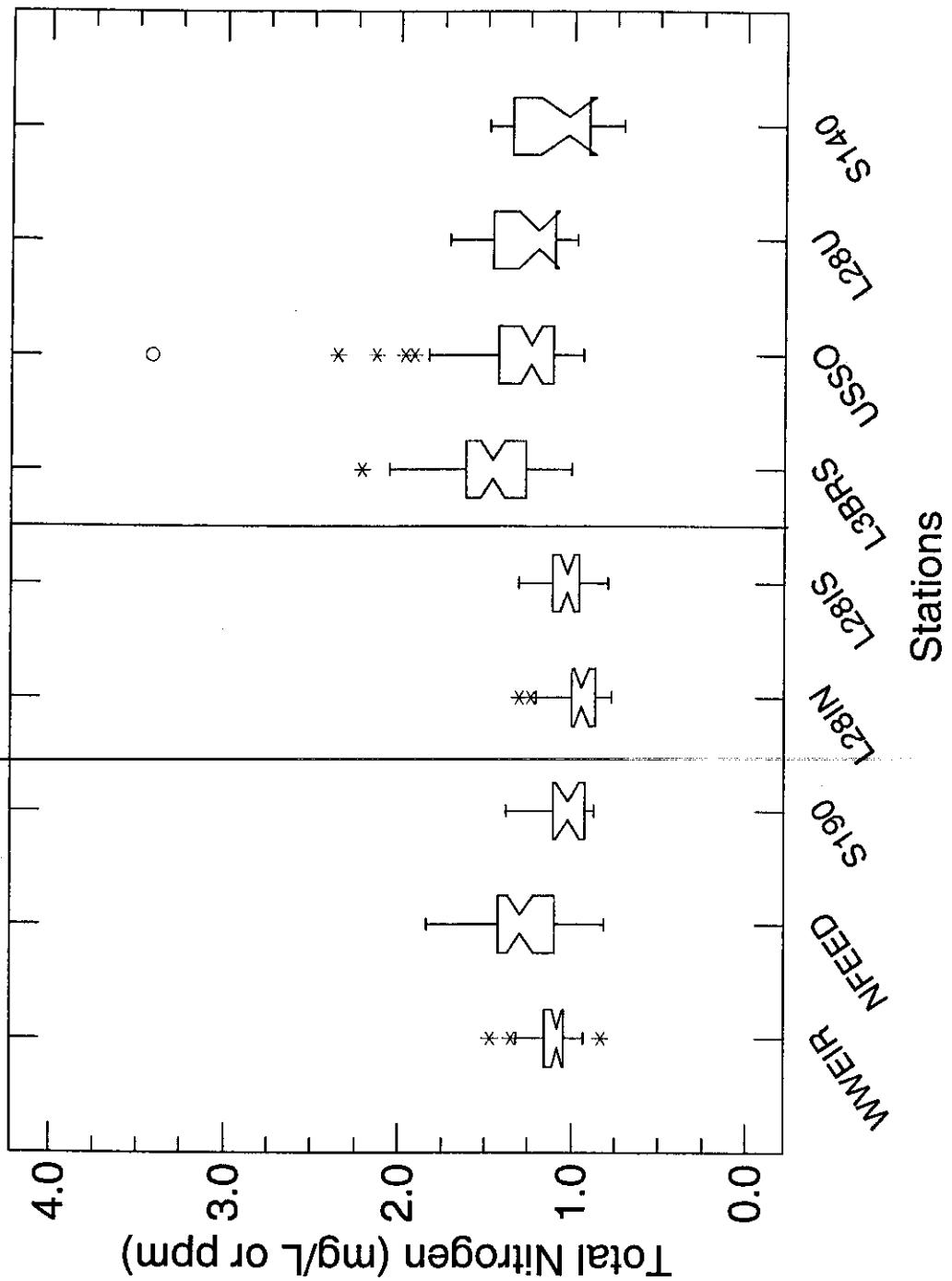
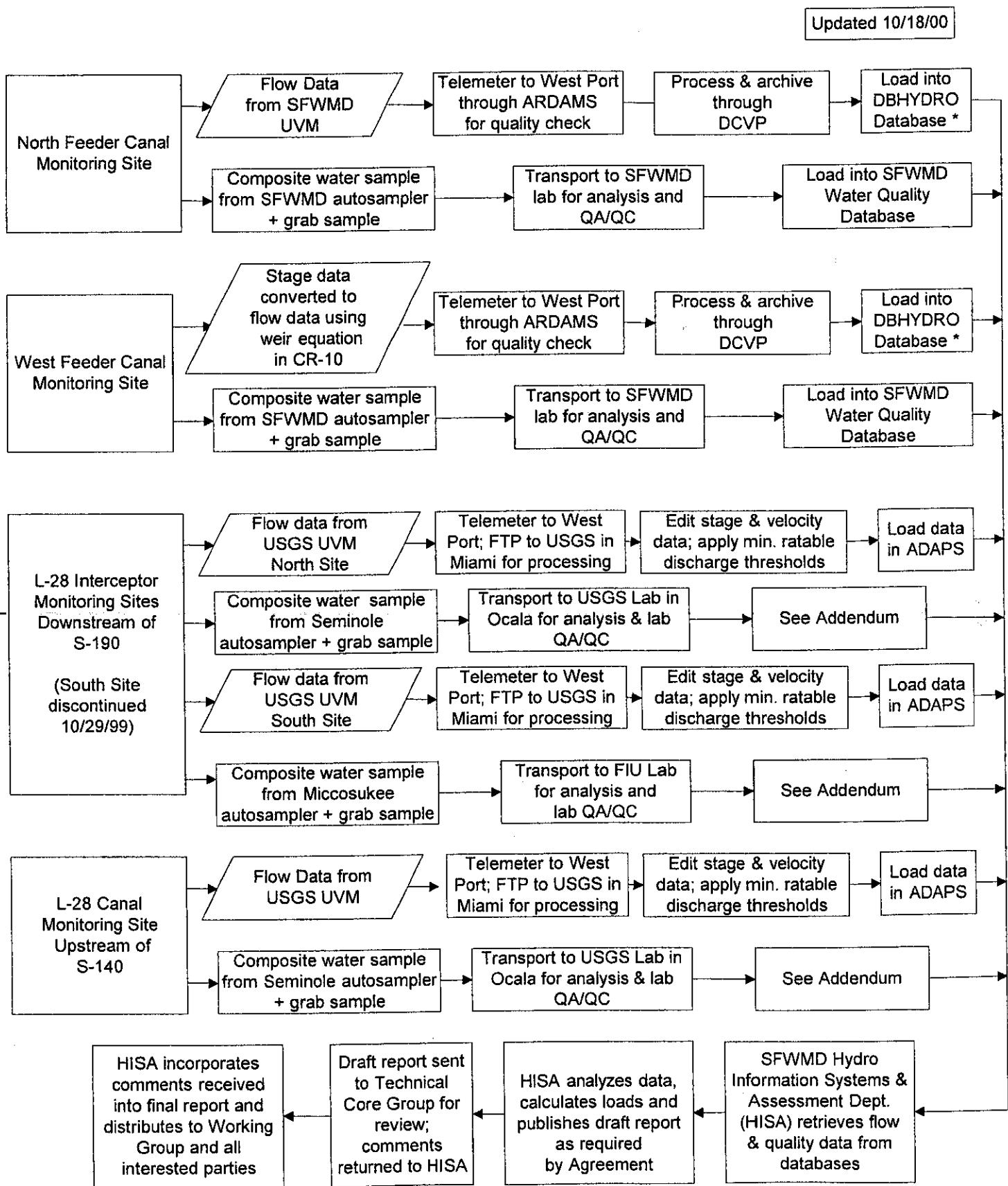


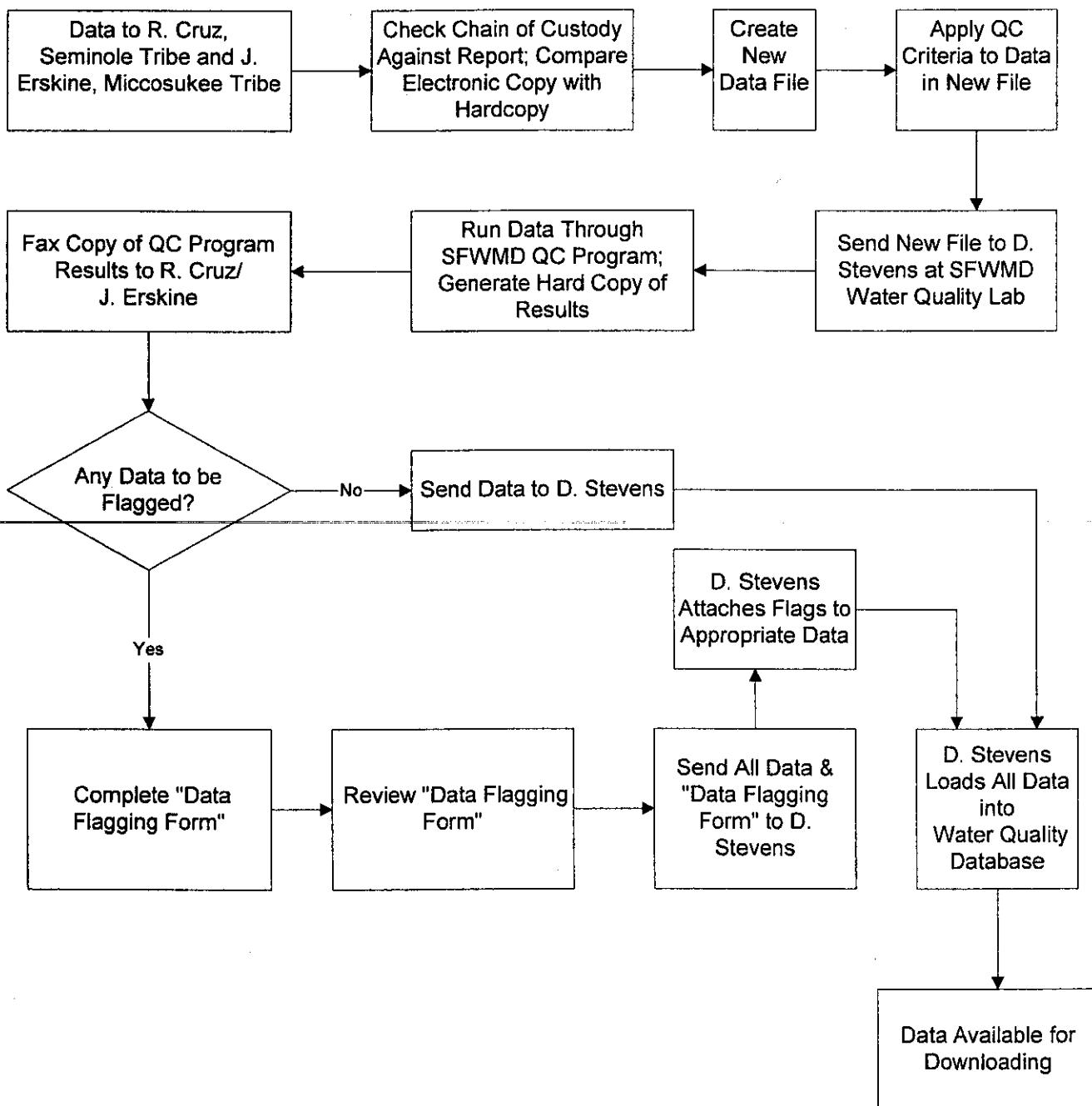
Figure 16. Comparison of Total Nitrogen (TN) Concentrations and Median Values.

APPENDIX I. Flow Chart for Water Flow and Water Quality Data Collected for the SFWMD/Seminole Cooperative Agreement



Addendum to Appendix I. Flow Chart for Water Flow and Water Quality Data Collected for the Seminole/SFWMD Cooperative Agreement

Updated 12/30/99



APPENDIX II. SFWMD/Seminole Agreement Sampling Station Names

Updated 10/18/00

SFWMD Database				
Hydrologic Data		Water Quality Data		
Site Name	Flow Station Name	DBKEY	Autosampler Station Name	Grab Sample Station Name
NFEED	NFEED_O	16754	NFEED	NFEED
WFEED	WFEED_O	16752	WFEED	WFEED
WWEIR	WFEED_O	16752	WWEIR	WWEIR
L3BRS	L3BRS_O	16245	USL3BRS	L3BRS
USSO	USSO_O	16749	USSO	USSO
S190	S190_S	15987	None	S190
S140	S140_TOT	06754	None	S140
L28U	L28U_O (FF811 USGS Preferred)	FF808	L28U	L28U (Seminole BCS7)
L28IN	L28IN_O (FF810 USGS Preferred)	FF809	L28IN	L28IN (Seminole BCS5)
L28IS (Site Discontinued 9/30/99 for Flow Measurements; 10/29/99 for Water Quality Measurements)	L28IS_O (FF813 USGS Preferred)	FF812	L28IS	L28IS (Miccosukee L28I @ I75)

Appendix III. Total Phosphorus (TP) concentration data for the Period of May 1, 1999 through April 30, 2000.

For L3BRS/USL3BRS:

(1) Grab sample TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	LIMS no.	Source
L3BRS	CAMB	05/20/99	0	0.055	P1216-8	L12424-8	SFWMD
L3BRS	CAMB	06/17/99	0	0.108	P1502-7	L12594-7	SFWMD
L3BRS	CAMB	06/28/99	0	0.093	P1589-7	L12649-7	SFWMD
L3BRS	CAMB	07/15/99	0	0.196	P1734-7	L12765-7	SFWMD
L3BRS	CAMB	07/29/99	0	0.158	P1424-7	L12847-7	SFWMD
L3BRS	CAMB	08/12/99	0	0.084	P1866-7	L12936-7	SFWMD
L3BRS	CAMB	08/26/99	0	0.229	P2084-7	L13015-7	SFWMD
L3BRS	CAMB	09/09/99	0	0.198	P1937-7	L13097-7	SFWMD
L3BRS	CAMB	09/23/99	0	0.341	P2311-7	L13171-7	SFWMD
L3BRS	CAMB	10/07/99	0	0.251	P2413-7	L13273-7	SFWMD
L3BRS	CAMB	10/20/99	0	0.256	P2224-7	L13378-7	SFWMD
L3BRS	CAMB	11/04/99	0	0.122	P2831-7	L13477-7	SFWMD
L3BRS	CAMB	11/18/99	0	0.078	P2995-7	L13571-7	SFWMD
L3BRS	CAMB	12/16/99	0	0.062	P3163-7	L13727-7	SFWMD
L3BRS	CAMB	12/30/99	0	0.056	P3295-7	L13804-7	SFWMD
L3BRS	CAMB	01/26/00	0	0.064	P3606-8	L13977-7	SFWMD
L3BRS	CAMB	02/08/00	0	0.048	P3731-8	L14038-8	SFWMD
L3BRS	CAMB	03/22/00	0	0.058	P4162-8	L14280-8	SFWMD
L3BRS	CAMB	04/17/00	0	0.080	P4352-8	L14436-8	SFWMD

(2) Automatic sampler flow Proportional composite TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	LIMS no.	Source
USL3BRS	CAMB	05/06/99	24	0.112	P1070-4	L12343-4	SFWMD
USL3BRS	CAMB	05/13/99	24	0.097	P1116-4	L12389-4	SFWMD
USL3BRS	CAMB	05/20/99	24	0.064	P1202-4	L12425-4	SFWMD
USL3BRS	CAMB	05/27/99	24	0.058	P1270-4	L12465-4	SFWMD
USL3BRS	CAMB	06/03/99	24	0.081	P1293-4	L12499-4	SFWMD
USL3BRS	CAMB	06/10/99	24	0.099	P1367-4	L12549-4	SFWMD
USL3BRS	CAMB	06/17/99	24	0.081	P1423-4	L12592-4	SFWMD
USL3BRS	CAMB	06/24/99	24	0.099	P1464-4	L12638-4	SFWMD
USL3BRS	CAMB	06/30/99	24	0.101	P1592-4	L12674-4	SFWMD
USL3BRS	CAMB	07/14/99	24	0.303	P1733-4	L12759-4	SFWMD
USL3BRS	CAMB	07/22/99	24	0.187	P1811-4	L12811-4	SFWMD
USL3BRS	CAMB	07/29/99	24	0.148	P1865-4	L12849-4	SFWMD
USL3BRS	CAMB	08/05/99	24	0.155	P1930-4	L12896-4	SFWMD
USL3BRS	CAMB	08/12/99	24	0.089	P1936-4	L12937-4	SFWMD
USL3BRS	CAMB	08/19/99	24	0.078	P2019-4	L12975-4	SFWMD
USL3BRS	CAMB	08/26/99	24	0.248	P2083-4	L13016-4	SFWMD
USL3BRS	CAMB	09/02/99	24	0.213	P2148-4	L13062-4	SFWMD
USL3BRS	CAMB	09/09/99	24	0.193	P2223-4	L13095-4	SFWMD
USL3BRS	CAMB	09/16/99	24	0.243	P2286-4	L13120-4	SFWMD
USL3BRS	CAMB	09/23/99	24	0.399	P2310-4	L13177-4	SFWMD
USL3BRS	CAMB	09/30/99	24	0.349	P2389-4	L13230-4	SFWMD
USL3BRS	CAMB	10/07/99	24	0.264	P2529-4	L13276-4	SFWMD

USL3BRS	CAMB	10/14/99	24	0.256	P2671-4	L13333-4	SFWMD
USL3BRS	CAMB	10/20/99	24	0.364	P2694-4	L13381-4	SFWMD
USL3BRS	CAMB	10/28/99	24	0.252	P2783-4	L13439-4	SFWMD
USL3BRS	CAMB	11/04/99	24	0.175	P2832-4	L13479-4	SFWMD
USL3BRS	CAMB	11/17/99	24	0.119	P2996-4	L13562-4	SFWMD
USL3BRS	CAMB	11/24/99	24	0.117	P3050-4	L13600-4	SFWMD
USL3BRS	CAMB	12/01/99	24	0.108	P3116-4	L13640-4	SFWMD
USL3BRS	CAMB	12/09/99	24	0.103	P3156-4	L13687-4	SFWMD
USL3BRS	CAMB	12/16/99	24	0.067	P3162-4	L13726-4	SFWMD
USL3BRS	CAMB	12/22/99	24	0.067	P3288-4	L13768-4	SFWMD
USL3BRS	CAMB	12/29/99	24	0.065	P3362-4	L13802-4	SFWMD
USL3BRS	CAMB	01/06/00	24	0.060	P3432-4	L13845-4	SFWMD
USL3BRS	CAMB	01/12/00	24	0.053	P3498-4	L13884-4	SFWMD
USL3BRS	CAMB	01/20/00	24	0.077	P3540-4	L13938-4	SFWMD
USL3BRS	CAMB	01/26/00	24	0.097	P3605-4	L13975-4	SFWMD
USL3BRS	CAMB	02/02/00	24	0.058	P3671-4	L14013-4	SFWMD
USL3BRS	CAMB	02/09/00	24	0.088	P3735-4	L14051-4	SFWMD
USL3BRS	CAMB	02/17/00	24	0.088	P3797-4	L14106-4	SFWMD
USL3BRS	CAMB	02/23/00	24	0.125	P3823-4	L14128-4	SFWMD
USL3BRS	CAMB	03/02/00	24	0.167	P3886-4	L14173-4	SFWMD
USL3BRS	CAMB	04/05/00	24	0.077	P4293-4	L14360-4	SFWMD
USL3BRS	CAMB	04/20/00	24	0.111	P4357-4	L14476-4	SFWMD
USL3BRS	CAMB	04/27/00	24	0.244	P4507-4	L14525-4	SFWMD
USL3BRS	CAMB	05/11/00	24	0.166	P4739-4	L14663-4	SFWMD

Appendix III. (continued)

For USSO:

(1) Grab sample TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	LIMS no.	Source
USSO	CAMB	05/20/99	0	0.106	P1216-9	L12424-9	SFWMD
USSO	CAMB	06/17/99	0	0.271	P1502-8	L12594-8	SFWMD
USSO	CAMB	06/28/99	0	0.111	P1589-8	L12649-8	SFWMD
USSO	CAMB	07/15/99	0	0.108	P1734-8	L12765-8	SFWMD
USSO	CAMB	07/29/99	0	0.096	P1424-8	L12847-8	SFWMD
USSO	CAMB	08/12/99	0	0.059	P1866-8	L12936-8	SFWMD
USSO	CAMB	08/26/99	0	0.052	P2084-8	L13015-8	SFWMD
USSO	CAMB	09/09/99	0	0.064	P1937-8	L13097-8	SFWMD
USSO	CAMB	09/23/99	0	0.108	P2311-8	L13171-8	SFWMD
USSO	CAMB	10/07/99	0	0.145	P2413-8	L13273-8	SFWMD
USSO	CAMB	10/20/99	0	0.202	P2224-8	L13378-8	SFWMD
USSO	CAMB	11/04/99	0	0.047	P2831-8	L13477-8	SFWMD
USSO	CAMB	11/18/99	0	0.058	P2995-8	L13571-8	SFWMD
USSO	CAMB	12/01/99	0	0.051	P3117-8	L13636-8	SFWMD
USSO	CAMB	12/30/99	0	0.062	P3295-8	L13804-8	SFWMD
USSO	CAMB	01/26/00	0	0.090	P3606-9	L13977-8	SFWMD
USSO	CAMB	02/09/00	0	0.079	P3735-12	L14051-12	SFWMD
USSO	CAMB	02/22/00	0	0.077	P3820-9	L14109-9	SFWMD
USSO	CAMB	03/22/00	0	0.056	P4162-9	L14280-9	SFWMD
USSO	CAMB	04/05/00	0	0.065	P4293-12	L14360-12	SFWMD
USSO	CAMB	04/17/00	0	0.104	P4352-9	L14436-9	SFWMD

(2) Automatic sampler flow Proportional composite TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	LIMS no.	Source
USSO	CAMB	05/06/99	24	0.193	P1070-5	L12343-5	SFWMD
USSO	CAMB	05/13/99	24	0.131	P1116-5	L12389-5	SFWMD
USSO	CAMB	05/20/99	24	0.102	P1202-5	L12425-5	SFWMD
USSO	CAMB	06/03/99	24	0.104	P1293-5	L12499-5	SFWMD
USSO	CAMB	06/24/99	24	0.144	P1464-5	L12638-5	SFWMD
USSO	CAMB	06/30/99	24	0.099	P1592-5	L12674-5	SFWMD
USSO	CAMB	07/08/99	24	0.075	P1677-5	L12711-5	SFWMD
USSO	CAMB	07/14/99	24	0.086	P1733-5	L12759-5	SFWMD
USSO	CAMB	07/22/99	24	0.092	P1811-5	L12811-5	SFWMD
USSO	CAMB	07/29/99	24	0.581	P1865-5	L12849-5	SFWMD
USSO	CAMB	08/05/99	24	0.088	P1930-5	L12896-5	SFWMD
USSO	CAMB	08/19/99	24	0.059	P2019-5	L12975-5	SFWMD
USSO	CAMB	08/26/99	24	0.046	P2083-5	L13016-5	SFWMD
USSO	CAMB	09/02/99	24	0.064	P2148-5	L13062-5	SFWMD
USSO	CAMB	09/09/99	24	0.078	P2223-5	L13095-5	SFWMD
USSO	CAMB	09/16/99	24	0.067	P2286-5	L13120-5	SFWMD
USSO	CAMB	09/23/99	24	0.068	P2310-5	L13177-5	SFWMD
USSO	CAMB	09/30/99	24	0.128	P2389-5	L13230-5	SFWMD
USSO	CAMB	10/07/99	24	0.166	P2529-5	L13276-5	SFWMD
USSO	CAMB	10/14/99	24	0.087	P2671-5	L13333-5	SFWMD
USSO	CAMB	10/20/99	24	0.103	P2694-5	L13381-5	SFWMD

USSO	CAMB	10/28/99	24	0.099	P2783-5	L13439-5	SFWMD
USSO	CAMB	11/04/99	24	0.077	P2832-5	L13479-5	SFWMD
USSO	CAMB	11/10/99	24	0.134	P2964-5	L13524-5	SFWMD
USSO	CAMB	11/17/99	24	0.109	P2996-5	L13562-5	SFWMD
USSO	CAMB	11/24/99	24	0.091	P3050-5	L13600-5	SFWMD
USSO	CAMB	12/01/99	24	0.098	P3116-5	L13640-5	SFWMD
USSO	CAMB	12/22/99	24	0.052	P3288-5	L13768-5	SFWMD
USSO	CAMB	12/29/99	24	0.048	P3362-5	L13802-5	SFWMD
USSO	CAMB	01/06/00	24	0.100	P3432-5	L13845-5	SFWMD
USSO	CAMB	01/12/00	24	0.165	P3498-5	L13884-5	SFWMD
USSO	CAMB	01/20/00	24	0.119	P3540-5	L13938-5	SFWMD
USSO	CAMB	01/26/00	24	0.087	P3605-5	L13975-5	SFWMD
USSO	CAMB	02/02/00	24	0.072	P3671-5	L14013-5	SFWMD
USSO	CAMB	02/17/00	24	0.061	P3797-5	L14106-5	SFWMD
USSO	CAMB	02/23/00	24	0.062	P3823-5	L14128-5	SFWMD
USSO	CAMB	03/02/00	24	0.086	P3886-5	L14173-5	SFWMD
USSO	CAMB	03/08/00	24	0.096	P3887-5	L14204-5	SFWMD
USSO	CAMB	03/16/00	24	0.094	P4079-5	L14250-5	SFWMD
USSO	CAMB	03/22/00	24	0.074	P4161-5	L14279-5	SFWMD
USSO	CAMB	03/30/00	24	0.069	P4234-5	L14330-5	SFWMD
USSO	CAMB	04/13/00	24	0.056	P4351-5	L14426-5	SFWMD
USSO	CAMB	04/20/00	24	0.143	P4357-5	L14476-5	SFWMD
USSO	CAMB	04/27/00	24	0.152	P4507-5	L14525-5	SFWMD
USSO	CAMB	05/11/00	24	0.065	P4739-5	L14663-5	SFWMD

Appendix III. (continued)

For L28U:

(1) Grab sample TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	Source
L28U	BCSB	05/05/99	0	0.027	577	U.S.G.S.
L28U	BCSB	05/19/99	0	0.021	585	U.S.G.S.
L28U	BCSB	06/02/99	0	0.016	594	U.S.G.S.
L28U	BCSB	06/02/99	0	0.016	594	U.S.G.S.
L28U	BCSB	06/16/99	0	0.357	602	U.S.G.S.
L28U	BCSB	06/16/99	0	0.357	602	U.S.G.S.
L28U	BCSB	06/30/99	0	0.075	613	U.S.G.S.
L28U	BCSB	07/07/99	0	0.059	623	U.S.G.S.
L28U	BCSB	07/22/99	0	0.059	633	U.S.G.S.
L28U	BCSB	07/22/99	0	0.105	630	U.S.G.S.
L28U	BCSB	08/04/99	0	0.065	642	U.S.G.S.
L28U	BCSB	08/04/99	0	0.070	643	U.S.G.S.
L28U	BCSB	08/11/99	0	0.058	658	U.S.G.S.
L28U	BCSB	08/18/99	0	0.067	661	U.S.G.S.
L28U	BCSB	08/25/99	0	0.055	679	U.S.G.S.
L28U	BCSB	09/01/99	0	0.062	688	U.S.G.S.
L28U	BCSB	09/01/99	0	0.065	687	U.S.G.S.
L28U	BCSB	09/08/99	0	0.085	700	U.S.G.S.
L28U	BCSB	09/22/99	0	0.063	703	U.S.G.S.
L28U	BCSB	10/06/99	0	0.109	713	U.S.G.S.
L28U	BCSB	10/20/99	0	0.113	725	U.S.G.S.
L28U	BCSB	11/03/99	0	0.060	735	U.S.G.S.
L28U	BCSB	11/17/99	0	0.078	745	U.S.G.S.
L28U	BCSB	12/01/99	0	0.059	755	U.S.G.S.
L28U	BCSB	12/15/99	0	0.070	776	U.S.G.S.
L28U	BCSB	12/28/99	0	0.043	784	U.S.G.S.
L28U	BCSB	01/05/00	0	0.044	792	U.S.G.S.
L28U	BCSB	01/19/00	0	0.063	802	U.S.G.S.
L28U	BCSB	02/16/00	0	0.058	822	U.S.G.S.
L28U	BCSB	03/01/00	0	0.047	833	U.S.G.S.
L28U	BCSB	03/15/00	0	0.057	842	U.S.G.S.
L28U	BCSB	03/29/00	0	0.098	852	U.S.G.S.
L28U	BCSB	04/05/00	0	0.043	856	U.S.G.S.
L28U	BCSB	04/19/00	0	0.032	880	U.S.G.S.

(2) Automatic sampler flow Proportional composite TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	Source
L28U	BCSB	05/05/99	24	0.122	578	U.S.G.S.
L28U	BCSB	05/12/99	24	0.137	581	U.S.G.S.
L28U	BCSB	05/19/99	24	0.189	586	U.S.G.S.
L28U	BCSB	05/26/99	24	0.163	591	U.S.G.S.
L28U	BCSB	06/02/99	24	0.370	595	U.S.G.S.
L28U	BCSB	06/02/99	24	0.370	595	U.S.G.S.
L28U	BCSB	06/09/99	24	0.530	599	U.S.G.S.
L28U	BCSB	06/09/99	24	0.530	599	U.S.G.S.

L28U	BCSB	06/16/99	24	0.299	603	U.S.G.S.
L28U	BCSB	06/30/99	24	0.222	612	U.S.G.S.
L28U	BCSB	06/30/99	24	0.228	609	U.S.G.S.
L28U	BCSB	07/07/99	24	0.182	622	U.S.G.S.
L28U	BCSB	07/13/99	24	0.211	626	U.S.G.S.
L28U	BCSB	07/22/99	24	0.153	631	U.S.G.S.
L28U	BCSB	07/28/99	24	0.087	636	U.S.G.S.
L28U	BCSB	08/04/99	24	0.048	640	U.S.G.S.
L28U	BCSB	08/11/99	24	0.048	656	U.S.G.S.
L28U	BCSB	08/18/99	24	0.060	662	U.S.G.S.
L28U	BCSB	08/18/99	24	0.066	664	U.S.G.S.
L28U	BCSB	08/25/99	24	0.058	677	U.S.G.S.
L28U	BCSB	09/01/99	24	0.054	685	U.S.G.S.
L28U	BCSB	09/08/99	24	0.054	698	U.S.G.S.
L28U	BCSB	09/22/99	24	0.051	704	U.S.G.S.
L28U	BCSB	09/29/99	24	0.086	710	U.S.G.S.
L28U	BCSB	10/06/99	24	0.131	715	U.S.G.S.
L28U	BCSB	10/13/99	24	0.089	722	U.S.G.S.
L28U	BCSB	10/20/99	24	0.086	726	U.S.G.S.
L28U	BCSB	10/27/99	24	0.079	732	U.S.G.S.
L28U	BCSB	11/03/99	24	0.057	736	U.S.G.S.
L28U	BCSB	11/10/99	24	0.053	742	U.S.G.S.
L28U	BCSB	11/17/99	24	0.117	746	U.S.G.S.
L28U	BCSB	11/23/99	24	0.136	752	U.S.G.S.
L28U	BCSB	12/01/99	24	0.075	758	U.S.G.S.
L28U	BCSB	12/08/99	24	0.053	773	U.S.G.S.
L28U	BCSB	12/15/99	24	0.058	777	U.S.G.S.
L28U	BCSB	12/21/99	24	0.041	781	U.S.G.S.
L28U	BCSB	12/28/99	24	0.053	785	U.S.G.S.
L28U	BCSB	01/05/00	24	0.042	793	U.S.G.S.
L28U	BCSB	01/12/00	24	0.030	796	U.S.G.S.
L28U	BCSB	01/19/00	24	0.057	803	U.S.G.S.
L28U	BCSB	01/26/00	24	0.304	806	U.S.G.S.
L28U	BCSB	02/02/00	24	0.353	812	U.S.G.S.
L28U	BCSB	02/09/00	24	0.038	816	U.S.G.S.
L28U	BCSB	02/16/00	24	0.046	821	U.S.G.S.
L28U	BCSB	02/23/00	24	0.039	825	U.S.G.S.
L28U	BCSB	03/01/00	24	0.053	834	U.S.G.S.
L28U	BCSB	03/08/00	24	0.045	837	U.S.G.S.
L28U	BCSB	03/15/00	24	0.039	843	U.S.G.S.
L28U	BCSB	03/22/00	24	0.149	846	U.S.G.S.
L28U	BCSB	03/29/00	24	0.072	853	U.S.G.S.
L28U	BCSB	04/05/00	24	0.064	859	U.S.G.S.
L28U	BCSB	04/12/00	24	0.087	877	U.S.G.S.

Appendix III. (continued)

For S140:

Grab sample TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	LIMS no.	Source
S140	CAMB	05/20/99	0	0.021	P1216-12	L12424-12	SFWMD
S140	CAMB	06/15/99	0	0.298	P1420-9	L12570-9	SFWMD
S140	CAMB	06/28/99	0	0.076	P1589-11	L12649-11	SFWMD
S140	CAMB	07/15/99	0	0.047	P1734-11	L12765-11	SFWMD
S140	CAMB	07/29/99	0	0.062	P1424-11	L12847-11	SFWMD
S140	CAMB	08/12/99	0	0.044	P1866-11	L12936-11	SFWMD
S140	CAMB	08/26/99	0	0.028	P2084-11	L13015-11	SFWMD
S140	CAMB	09/09/99	0	0.041	P1937-11	L13097-11	SFWMD
S140	CAMB	09/23/99	0	0.042	P2311-11	L13171-11	SFWMD
S140	CAMB	10/07/99	0	0.074	P2413-11	L13273-11	SFWMD
S140	CAMB	10/20/99	0	0.064	P2224-11	L13378-11	SFWMD
S140	CAMB	11/04/99	0	0.039	P2831-11	L13477-11	SFWMD
S140	CAMB	11/18/99	0	0.033	P2995-11	L13571-11	SFWMD
S140	CAMB	11/30/99	0	0.042	P3114-6	L13626-6	SFWMD
S140	CAMB	12/14/99	0	0.024	P3160-6	L13704-6	SFWMD
S140	CAMB	12/28/99	0	0.032	P3360-6	L13786-6	SFWMD
S140	CAMB	01/31/00	0	0.025	P3679-6	L13992-2	SFWMD
S140	CAMB	02/22/00	0	0.024	P3819-6	L14114-6	SFWMD
S140	CAMB	04/11/00	0	0.121	P3966-4	L14402-4	SFWMD

Appendix III. (continued)

For WWEIR:

(1) Grab sample TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	LIMS no.	Source
WWEIR	SEMI	05/06/99	0	0.051	P1070-11	L12343-11	SFWMD
WWEIR	SEMI	05/13/99	0	0.044	P1116-11	L12389-11	SFWMD
WWEIR	SEMI	05/20/99	0	0.066	P1202-11	L12425-11	SFWMD
WWEIR	SEMI	05/27/99	0	0.065	P1270-11	L12465-11	SFWMD
WWEIR	SEMI	06/03/99	0	0.051	P1293-11	L12499-11	SFWMD
WWEIR	SEMI	06/10/99	0	0.049	P1367-11	L12549-11	SFWMD
WWEIR	SEMI	06/17/99	0	0.046	P1423-11	L12592-11	SFWMD
WWEIR	SEMI	06/24/99	0	0.040	P1464-11	L12638-11	SFWMD
WWEIR	SEMI	07/08/99	0	0.037	P1677-11	L12711-11	SFWMD
WWEIR	SEMI	07/14/99	0	0.034	P1733-11	L12759-11	SFWMD
WWEIR	SEMI	07/22/99	0	0.033	P1811-11	L12811-11	SFWMD
WWEIR	SEMI	07/29/99	0	0.034	P1865-11	L12849-11	SFWMD
WWEIR	SEMI	08/05/99	0	0.027	P1930-11	L12896-11	SFWMD
WWEIR	SEMI	08/12/99	0	0.031	P1936-11	L12937-11	SFWMD
WWEIR	SEMI	08/19/99	0	0.025	P2019-11	L12975-11	SFWMD
WWEIR	SEMI	08/26/99	0	0.036	P2083-11	L13016-11	SFWMD
WWEIR	SEMI	09/02/99	0	0.065	P2148-11	L13062-11	SFWMD
WWEIR	SEMI	09/09/99	0	0.025	P2223-11	L13095-11	SFWMD
WWEIR	SEMI	09/16/99	0	0.046	P2286-11	L13120-11	SFWMD
WWEIR	SEMI	09/23/99	0	0.089	P2310-11	L13177-11	SFWMD
WWEIR	SEMI	09/30/99	0	0.084	P2389-11	L13230-11	SFWMD
WWEIR	SEMI	10/07/99	0	0.065	P2529-11	L13276-11	SFWMD
WWEIR	SEMI	10/14/99	0	0.043	P2671-11	L13333-11	SFWMD
WWEIR	SEMI	10/20/99	0	0.066	P2694-11	L13381-11	SFWMD
WWEIR	SEMI	10/28/99	0	0.038	P2783-11	L13439-11	SFWMD
WWEIR	SEMI	11/04/99	0	0.035	P2832-11	L13479-11	SFWMD
WWEIR	SEMI	11/10/99	0	0.028	P2964-11	L13524-11	SFWMD
WWEIR	SEMI	11/17/99	0	0.035	P2996-11	L13562-11	SFWMD
WWEIR	SEMI	11/24/99	0	0.036	P3050-11	L13600-11	SFWMD
WWEIR	SEMI	12/01/99	0	0.029	P3116-11	L13640-11	SFWMD
WWEIR	SEMI	12/09/99	0	0.028	P3156-11	L13687-11	SFWMD
WWEIR	SEMI	12/16/99	0	0.028	P3162-11	L13726-11	SFWMD
WWEIR	SEMI	12/22/99	0	0.027	P3288-11	L13768-11	SFWMD
WWEIR	SEMI	12/29/99	0	0.020	P3362-11	L13802-11	SFWMD
WWEIR	SEMI	01/06/00	0	0.021	P3432-11	L13845-11	SFWMD
WWEIR	SEMI	01/12/00	0	0.033	P3498-11	L13884-11	SFWMD
WWEIR	SEMI	01/20/00	0	0.022	P3540-11	L13938-11	SFWMD
WWEIR	SEMI	01/26/00	0	0.017	P3605-11	L13975-11	SFWMD
WWEIR	SEMI	02/02/00	0	0.022	P3671-11	L14013-11	SFWMD
WWEIR	SEMI	02/09/00	0	0.018	P3735-11	L14051-11	SFWMD
WWEIR	SEMI	02/17/00	0	0.024	P3797-11	L14106-11	SFWMD
WWEIR	SEMI	02/23/00	0	0.030	P3823-11	L14128-11	SFWMD
WWEIR	SEMI	03/02/00	0	0.033	P3886-11	L14173-11	SFWMD
WWEIR	SEMI	03/08/00	0	0.033	P3887-11	L14204-11	SFWMD
WWEIR	SEMI	03/16/00	0	0.031	P4079-11	L14250-11	SFWMD
WWEIR	SEMI	03/22/00	0	0.029	P4161-11	L14279-11	SFWMD
WWEIR	SEMI	03/30/00	0	0.032	P4234-11	L14330-11	SFWMD
WWEIR	SEMI	04/05/00	0	0.032	P4293-11	L14360-11	SFWMD

WWEIR	SEMI	04/13/00	0	0.035	P4351-11	L14426-11	SFWMD
WWEIR	SEMI	04/20/00	0	0.025	P4357-11	L14476-11	SFWMD
WWEIR	SEMI	04/27/00	0	0.017	P4507-11	L14525-11	SFWMD

(2) Automatic sampler flow Proportional composite TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	LIMS no.	Source
WWEIR	SEMI	07/08/99	24	0.031	P1677-10	L12711-10	SFWMD
WWEIR	SEMI	07/14/99	24	0.144	P1733-10	L12759-10	SFWMD
WWEIR	SEMI	07/22/99	24	0.039	P1811-10	L12811-10	SFWMD
WWEIR	SEMI	07/29/99	24	0.036	P1865-10	L12849-10	SFWMD
WWEIR	SEMI	08/12/99	24	0.042	P1936-10	L12937-10	SFWMD
WWEIR	SEMI	08/19/99	24	0.037	P2019-10	L12975-10	SFWMD
WWEIR	SEMI	08/26/99	24	0.030	P2083-10	L13016-10	SFWMD
WWEIR	SEMI	09/02/99	24	0.050	P2148-10	L13062-10	SFWMD
WWEIR	SEMI	09/09/99	24	0.039	P2223-10	L13095-10	SFWMD
WWEIR	SEMI	09/16/99	24	0.043	P2286-10	L13120-10	SFWMD
WWEIR	SEMI	09/23/99	24	0.083	P2310-10	L13177-10	SFWMD
WWEIR	SEMI	09/30/99	24	0.079	P2389-10	L13230-10	SFWMD
WWEIR	SEMI	10/07/99	24	0.102	P2529-10	L13276-10	SFWMD
WWEIR	SEMI	10/14/99	24	0.055	P2671-10	L13333-10	SFWMD
WWEIR	SEMI	10/20/99	24	0.080	P2694-10	L13381-10	SFWMD
WWEIR	SEMI	10/28/99	24	0.058	P2783-10	L13439-10	SFWMD
WWEIR	SEMI	11/04/99	24	0.051	P2832-10	L13479-10	SFWMD
WWEIR	SEMI	11/10/99	24	0.035	P2964-10	L13524-10	SFWMD
WWEIR	SEMI	11/17/99	24	0.036	P2996-10	L13562-10	SFWMD
WWEIR	SEMI	11/24/99	24	0.033	P3050-10	L13600-10	SFWMD
WWEIR	SEMI	12/01/99	24	0.042	P3116-10	L13640-10	SFWMD
WWEIR	SEMI	12/09/99	24	0.029	P3156-10	L13687-10	SFWMD
WWEIR	SEMI	12/16/99	24	0.043	P3162-10	L13726-10	SFWMD
WWEIR	SEMI	12/22/99	24	0.032	P3288-10	L13768-10	SFWMD
WWEIR	SEMI	12/29/99	24	0.033	P3362-10	L13802-10	SFWMD
WWEIR	SEMI	01/06/00	24	0.027	P3432-10	L13845-10	SFWMD
WWEIR	SEMI	01/12/00	24	0.031	P3498-10	L13884-10	SFWMD
WWEIR	SEMI	01/20/00	24	0.031	P3540-10	L13938-10	SFWMD
WWEIR	SEMI	01/26/00	24	0.028	P3605-10	L13975-10	SFWMD
WWEIR	SEMI	02/02/00	24	0.023	P3671-10	L14013-10	SFWMD
WWEIR	SEMI	02/09/00	24	0.025	P3735-10	L14051-10	SFWMD
WWEIR	SEMI	02/17/00	24	0.022	P3797-10	L14106-10	SFWMD
WWEIR	SEMI	04/20/00	24	0.030	P4357-10	L14476-10	SFWMD

Appendix III. (continued)

For NFEED:

(1) Grab sample TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	LIMS no.	Source
NFEED	SEMI	05/06/99	0	0.092	P1070-9	L12343-9	SFWMD
NFEED	SEMI	05/13/99	0	0.065	P1116-9	L12389-9	SFWMD
NFEED	SEMI	05/20/99	0	0.044	P1202-9	L12425-9	SFWMD
NFEED	SEMI	05/27/99	0	0.036	P1270-9	L12465-9	SFWMD
NFEED	SEMI	06/03/99	0	0.030	P1293-9	L12499-9	SFWMD
NFEED	SEMI	06/10/99	0	0.051	P1367-9	L12549-9	SFWMD
NFEED	SEMI	06/17/99	0	0.089	P1423-9	L12592-9	SFWMD
NFEED	SEMI	06/24/99	0	0.155	P1464-9	L12638-9	SFWMD
NFEED	SEMI	07/08/99	0	0.155	P1677-9	L12711-9	SFWMD
NFEED	SEMI	07/14/99	0	0.133	P1733-9	L12759-9	SFWMD
NFEED	SEMI	07/22/99	0	0.103	P1811-9	L12811-9	SFWMD
NFEED	SEMI	07/29/99	0	0.068	P1865-9	L12849-9	SFWMD
NFEED	SEMI	08/05/99	0	0.059	P1930-9	L12896-9	SFWMD
NFEED	SEMI	08/12/99	0	0.062	P1936-9	L12937-9	SFWMD
NFEED	SEMI	08/19/99	0	0.049	P2019-9	L12975-9	SFWMD
NFEED	SEMI	08/26/99	0	0.064	P2083-9	L13016-9	SFWMD
NFEED	SEMI	09/02/99	0	0.072	P2148-9	L13062-9	SFWMD
NFEED	SEMI	09/09/99	0	0.069	P2223-9	L13095-9	SFWMD
NFEED	SEMI	09/16/99	0	0.093	P2286-9	L13120-9	SFWMD
NFEED	SEMI	09/23/99	0	0.276	P2310-9	L13177-9	SFWMD
NFEED	SEMI	09/30/99	0	0.287	P2389-9	L13230-9	SFWMD
NFEED	SEMI	10/07/99	0	0.195	P2529-9	L13276-9	SFWMD
NFEED	SEMI	10/14/99	0	0.158	P2671-9	L13333-9	SFWMD
NFEED	SEMI	10/20/99	0	0.349	P2694-9	L13381-9	SFWMD
NFEED	SEMI	10/28/99	0	0.152	P2783-9	L13439-9	SFWMD
NFEED	SEMI	11/04/99	0	0.136	P2832-9	L13479-9	SFWMD
NFEED	SEMI	11/10/99	0	0.105	P2964-9	L13524-9	SFWMD
NFEED	SEMI	11/17/99	0	0.109	P2996-9	L13562-9	SFWMD
NFEED	SEMI	11/24/99	0	0.125	P3050-9	L13600-9	SFWMD
NFEED	SEMI	12/01/99	0	0.113	P3116-9	L13640-9	SFWMD
NFEED	SEMI	12/09/99	0	0.103	P3156-9	L13687-9	SFWMD
NFEED	SEMI	12/16/99	0	0.114	P3162-9	L13726-9	SFWMD
NFEED	SEMI	12/22/99	0	0.097	P3288-9	L13768-9	SFWMD
NFEED	SEMI	12/29/99	0	0.066	P3362-9	L13802-9	SFWMD
NFEED	SEMI	01/06/00	0	0.066	P3432-9	L13845-9	SFWMD
NFEED	SEMI	01/12/00	0	0.076	P3498-9	L13884-9	SFWMD
NFEED	SEMI	01/20/00	0	0.054	P3540-9	L13938-9	SFWMD
NFEED	SEMI	01/26/00	0	0.049	P3605-9	L13975-9	SFWMD
NFEED	SEMI	02/02/00	0	0.043	P3671-9	L14013-9	SFWMD
NFEED	SEMI	02/09/00	0	0.056	P3735-9	L14051-9	SFWMD
NFEED	SEMI	02/17/00	0	0.050	P3797-9	L14106-9	SFWMD
NFEED	SEMI	02/23/00	0	0.060	P3823-9	L14128-9	SFWMD
NFEED	SEMI	03/02/00	0	0.052	P3886-9	L14173-9	SFWMD
NFEED	SEMI	03/08/00	0	0.081	P3887-9	L14204-9	SFWMD
NFEED	SEMI	03/16/00	0	0.072	P4079-9	L14250-9	SFWMD
NFEED	SEMI	03/22/00	0	0.102	P4161-9	L14279-9	SFWMD
NFEED	SEMI	03/30/00	0	0.089	P4234-9	L14330-9	SFWMD
NFEED	SEMI	04/05/00	0	0.092	P4293-9	L14360-9	SFWMD

NFEED	SEMI	04/13/00	0	0.091	P4351-9	L14426-9	SFWMD
NFEED	SEMI	04/20/00	0	0.084	P4357-9	L14476-9	SFWMD
NFEED	SEMI	04/27/00	0	0.072	P4507-9	L14525-9	SFWMD

(2) Automatic sampler flow Proportional composite TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	LIMS no.	Source
NFEED	SEMI	05/06/99	24	0.103	P1070-8	L12343-8	SFWMD
NFEED	SEMI	05/13/99	24	0.089	P1116-8	L12389-8	SFWMD
NFEED	SEMI	05/20/99	24	0.072	P1202-8	L12425-8	SFWMD
NFEED	SEMI	05/27/99	24	0.050	P1270-8	L12465-8	SFWMD
NFEED	SEMI	06/03/99	24	0.034	P1293-8	L12499-8	SFWMD
NFEED	SEMI	06/10/99	24	0.047	P1367-8	L12549-8	SFWMD
NFEED	SEMI	06/30/99	24	0.233	P1592-8	L12674-8	SFWMD
NFEED	SEMI	07/08/99	24	0.157	P1677-8	L12711-8	SFWMD
NFEED	SEMI	07/14/99	24	0.128	P1733-8	L12759-8	SFWMD
NFEED	SEMI	07/22/99	24	0.108	P1811-8	L12811-8	SFWMD
NFEED	SEMI	07/29/99	24	0.091	P1865-8	L12849-8	SFWMD
NFEED	SEMI	08/05/99	24	0.073	P1930-8	L12896-8	SFWMD
NFEED	SEMI	08/19/99	24	0.062	P2019-8	L12975-8	SFWMD
NFEED	SEMI	08/26/99	24	0.056	P2083-8	L13016-8	SFWMD
NFEED	SEMI	09/02/99	24	0.062	P2148-8	L13062-8	SFWMD
NFEED	SEMI	09/09/99	24	0.053	P2223-8	L13095-8	SFWMD
NFEED	SEMI	09/16/99	24	0.109	P2286-8	L13120-8	SFWMD
NFEED	SEMI	09/30/99	24	0.306	P2389-8	L13230-8	SFWMD
NFEED	SEMI	10/20/99	24	0.248	P2694-8	L13381-8	SFWMD
NFEED	SEMI	10/28/99	24	0.283	P2783-8	L13439-8	SFWMD
NFEED	SEMI	11/04/99	24	0.166	P2832-8	L13479-8	SFWMD
NFEED	SEMI	11/10/99	24	0.135	P2964-8	L13524-8	SFWMD
NFEED	SEMI	11/17/99	24	0.118	P2996-8	L13562-8	SFWMD
NFEED	SEMI	11/24/99	24	0.128	P3050-8	L13600-8	SFWMD
NFEED	SEMI	12/01/99	24	0.131	P3116-8	L13640-8	SFWMD
NFEED	SEMI	12/09/99	24	0.105	P3156-8	L13687-8	SFWMD
NFEED	SEMI	12/16/99	24	0.108	P3162-8	L13726-8	SFWMD
NFEED	SEMI	12/22/99	24	0.105	P3288-8	L13768-8	SFWMD
NFEED	SEMI	12/29/99	24	0.087	P3362-8	L13802-8	SFWMD
NFEED	SEMI	01/06/00	24	0.056	P3432-8	L13845-8	SFWMD
NFEED	SEMI	01/12/00	24	0.076	P3498-8	L13884-8	SFWMD
NFEED	SEMI	01/20/00	24	0.076	P3540-8	L13938-8	SFWMD
NFEED	SEMI	01/26/00	24	0.072	P3605-8	L13975-8	SFWMD
NFEED	SEMI	02/02/00	24	0.055	P3671-8	L14013-8	SFWMD
NFEED	SEMI	02/09/00	24	0.057	P3735-8	L14051-8	SFWMD
NFEED	SEMI	02/17/00	24	0.072	P3797-8	L14106-8	SFWMD
NFEED	SEMI	02/23/00	24	0.071	P3823-8	L14128-8	SFWMD
NFEED	SEMI	03/02/00	24	0.122	P3886-8	L14173-8	SFWMD
NFEED	SEMI	03/08/00	24	0.100	P3887-8	L14204-8	SFWMD
NFEED	SEMI	03/16/00	24	0.111	P4079-8	L14250-8	SFWMD
NFEED	SEMI	03/22/00	24	0.095	P4161-8	L14279-8	SFWMD
NFEED	SEMI	03/30/00	24	0.106	P4234-8	L14330-8	SFWMD
NFEED	SEMI	04/05/00	24	0.108	P4293-8	L14360-8	SFWMD
NFEED	SEMI	04/13/00	24	0.109	P4351-8	L14426-8	SFWMD
NFEED	SEMI	04/20/00	24	0.089	P4357-8	L14476-8	SFWMD
NFEED	SEMI	04/27/00	24	0.093	P4507-8	L14525-8	SFWMD
NFEED	SEMI	05/11/00	24	0.082	P4739-8	L14663-8	SFWMD

Appendix III. (continued)

For S190:

Grab sample TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	LIMS no.	Source
S190	CAMB	05/20/99	0	0.037	P1216-10	L12424-10	SFWMD
S190	CAMB	06/17/99	0	0.043	P1502-9	L12594-9	SFWMD
S190	CAMB	06/28/99	0	0.088	P1589-9	L12649-9	SFWMD
S190	CAMB	07/15/99	0	0.051	P1734-9	L12765-9	SFWMD
S190	CAMB	07/29/99	0	0.041	P1424-9	L12847-9	SFWMD
S190	CAMB	08/12/99	0	0.040	P1866-9	L12936-9	SFWMD
S190	CAMB	08/26/99	0	0.049	P2084-9	L13015-9	SFWMD
S190	CAMB	09/09/99	0	0.069	P1937-9	L13097-9	SFWMD
S190	CAMB	09/23/99	0	0.155	P2311-9	L13171-9	SFWMD
S190	CAMB	10/07/99	0	0.118	P2413-9	L13273-9	SFWMD
S190	CAMB	10/20/99	0	0.179	P2224-9	L13378-9	SFWMD
S190	CAMB	11/04/99	0	0.066	P2831-9	L13477-9	SFWMD
S190	CAMB	11/18/99	0	0.046	P2995-9	L13571-9	SFWMD
S190	CAMB	12/30/99	0	0.088	P3295-9	L13804-9	SFWMD
S190	CAMB	01/26/00	0	0.036	P3606-10	L13977-9	SFWMD
S190	CAMB	02/22/00	0	0.108	P3820-10	L14109-10	SFWMD
S190	CAMB	03/22/00	0	0.034	P4162-10	L14280-10	SFWMD
S190	CAMB	04/17/00	0	0.034	P4352-10	L14436-10	SFWMD

Appendix III. (continued)

For L28IN:

(1) Grab sample TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	Source
L28IN	BCSB	05/05/99	0	0.018	579	U.S.G.S.
L28IN	BCSB	05/19/99	0	0.020	587	U.S.G.S.
L28IN	BCSB	06/02/99	0	0.015	596	U.S.G.S.
L28IN	BCSB	06/02/99	0	0.015	596	U.S.G.S.
L28IN	BCSB	06/16/99	0	0.023	605	U.S.G.S.
L28IN	BCSB	06/30/99	0	0.160	615	U.S.G.S.
L28IN	BCSB	07/07/99	0	0.080	619	U.S.G.S.
L28IN	BCSB	08/04/99	0	0.052	646	U.S.G.S.
L28IN	BCSB	08/04/99	0	0.052	650	U.S.G.S.
L28IN	BCSB	08/11/99	0	0.042	653	U.S.G.S.
L28IN	BCSB	08/18/99	0	0.045	665	U.S.G.S.
L28IN	BCSB	08/18/99	0	0.047	666	U.S.G.S.
L28IN	BCSB	08/25/99	0	0.045	676	U.S.G.S.
L28IN	BCSB	09/01/99	0	0.087	689	U.S.G.S.
L28IN	BCSB	09/01/99	0	0.092	692	U.S.G.S.
L28IN	BCSB	09/08/99	0	0.082	697	U.S.G.S.
L28IN	BCSB	09/22/99	0	0.126	705	U.S.G.S.
L28IN	BCSB	10/06/99	0	0.098	717	U.S.G.S.
L28IN	BCSB	10/20/99	0	0.162	727	U.S.G.S.
L28IN	BCSB	11/03/99	0	0.068	737	U.S.G.S.
L28IN	BCSB	11/17/99	0	0.044	747	U.S.G.S.
L28IN	BCSB	12/01/99	0	0.055	759	U.S.G.S.
L28IN	BCSB	12/15/99	0	0.056	778	U.S.G.S.
L28IN	BCSB	12/28/99	0	0.054	786	U.S.G.S.
L28IN	BCSB	01/05/00	0	0.042	789	U.S.G.S.
L28IN	BCSB	01/19/00	0	0.047	800	U.S.G.S.
L28IN	BCSB	02/02/00	0	0.034	809	U.S.G.S.
L28IN	BCSB	02/16/00	0	0.037	819	U.S.G.S.
L28IN	BCSB	03/01/00	0	0.035	830	U.S.G.S.
L28IN	BCSB	03/15/00	0	0.046	841	U.S.G.S.
L28IN	BCSB	03/29/00	0	0.039	850	U.S.G.S.
L28IN	BCSB	04/05/00	0	0.045	860	U.S.G.S.
L28IN	BCSB	04/19/00	0	0.039	881	U.S.G.S.

(2) Automatic sampler flow proportional composite TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	Source
L28IN	BCSB	05/26/99	24	0.124	590	U.S.G.S.
L28IN	BCSB	06/16/99	24	0.136	604	U.S.G.S.
L28IN	BCSB	06/23/99	24	0.098	608	U.S.G.S.
L28IN	BCSB	06/30/99	24	0.112	614	U.S.G.S.
L28IN	BCSB	07/07/99	24	0.128	618	U.S.G.S.
L28IN	BCSB	07/13/99	24	0.134	627	U.S.G.S.
L28IN	BCSB	07/22/99	24	0.080	632	U.S.G.S.
L28IN	BCSB	08/04/99	24	0.048	644	U.S.G.S.
L28IN	BCSB	08/11/99	24	0.026	655	U.S.G.S.

L28IN	BCSB	08/18/99	24	0.071	668	U.S.G.S.
L28IN	BCSB	08/25/99	24	0.089	674	U.S.G.S.
L28IN	BCSB	09/01/99	24	0.090	690	U.S.G.S.
L28IN	BCSB	09/08/99	24	0.091	695	U.S.G.S.
L28IN	BCSB	09/22/99	24	0.089	706	U.S.G.S.
L28IN	BCSB	09/29/99	24	0.137	709	U.S.G.S.
L28IN	BCSB	10/06/99	24	0.130	718	U.S.G.S.
L28IN	BCSB	10/13/99	24	0.091	721	U.S.G.S.
L28IN	BCSB	10/20/99	24	0.122	728	U.S.G.S.
L28IN	BCSB	10/27/99	24	0.127	731	U.S.G.S.
L28IN	BCSB	11/03/99	24	0.094	738	U.S.G.S.
L28IN	BCSB	11/10/99	24	0.074	741	U.S.G.S.
L28IN	BCSB	11/17/99	24	0.061	748	U.S.G.S.
L28IN	BCSB	11/23/99	24	0.064	751	U.S.G.S.
L28IN	BCSB	12/01/99	24	0.083	760	U.S.G.S.
L28IN	BCSB	01/12/00	24	0.046	797	U.S.G.S.
L28IN	BCSB	01/19/00	24	0.085	801	U.S.G.S.
L28IN	BCSB	02/16/00	24	0.058	820	U.S.G.S.
L28IN	BCSB	02/23/00	24	0.086	826	U.S.G.S.
L28IN	BCSB	03/08/00	24	0.070	838	U.S.G.S.
L28IN	BCSB	03/22/00	24	0.079	847	U.S.G.S.
L28IN	BCSB	03/29/00	24	0.062	851	U.S.G.S.
L28IN	BCSB	04/05/00	24	0.037	861	U.S.G.S.
L28IN	BCSB	04/12/00	24	0.064	876	U.S.G.S.

Appendix III. (continued)

For L28IS:

(1) Grab sample TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	Source
L28IS	MICC	05/21/99	0	0.005	56	SERP,FIU
L28IS	MICC	05/28/99	0	0.018	57	SERP,FIU
L28IS	MICC	06/04/99	0	0.037	58	SERP,FIU
L28IS	MICC	06/11/99	0	0.014	59	SERP,FIU
L28IS	MICC	06/18/99	0	0.027	60	SERP,FIU
L28IS	MICC	06/21/99	0	0.024	61	SERP,FIU
L28IS	MICC	07/02/99	0	0.076	62	SERP,FIU
L28IS	MICC	07/09/99	0	0.132	63	SERP,FIU
L28IS	MICC	07/16/99	0	0.074	64	SERP,FIU
L28IS	MICC	07/23/99	0	0.089	65	SERP,FIU
L28IS	MICC	07/30/99	0	0.076	66	SERP,FIU
L28IS	MICC	08/06/99	0	0.048	67	SERP,FIU
L28IS	MICC	08/13/99	0	0.035	68	SERP,FIU
L28IS	MICC	08/20/99	0	0.063	69	SERP,FIU
L28IS	MICC	08/27/99	0	0.040	70	SERP,FIU
L28IS	MICC	09/03/99	0	0.063	71	SERP,FIU
L28IS	MICC	09/10/99	0	0.063	72	SERP,FIU
L28IS	MICC	09/17/99	0	0.057	73	SERP,FIU
L28IS	MICC	09/23/99	0	0.096	74	SERP,FIU
L28IS	MICC	10/01/99	0	0.167	75	SERP,FIU
L28IS	MICC	10/29/99	0	0.092	76	SERP,FIU

(2) Automatic sampler flow proportional composite TP concentration data.

Station	Project	Date	Type	Conc. (mg/L)	Sample_ID	Source
L28IS	MICC	05/21/99	24	0.026	56	SERP,FIU
L28IS	MICC	05/28/99	24	0.037	57	SERP,FIU
L28IS	MICC	06/04/99	24	0.023	58	SERP,FIU
L28IS	MICC	06/11/99	24	0.024	59	SERP,FIU
L28IS	MICC	06/18/99	24	0.030	60	SERP,FIU
L28IS	MICC	06/21/99	24	0.033	61	SERP,FIU
L28IS	MICC	07/02/99	24	0.049	62	SERP,FIU
L28IS	MICC	07/09/99	24	0.095	63	SERP,FIU
L28IS	MICC	07/16/99	24	0.072	64	SERP,FIU
L28IS	MICC	08/13/99	24	0.063	68	SERP,FIU
L28IS	MICC	08/20/99	24	0.032	69	SERP,FIU
L28IS	MICC	08/27/99	24	0.031	70	SERP,FIU
L28IS	MICC	09/03/99	24	0.045	71	SERP,FIU
L28IS	MICC	09/10/99	24	0.057	72	SERP,FIU
L28IS	MICC	09/17/99	24	0.043	73	SERP,FIU
L28IS	MICC	09/23/99	24	0.046	74	SERP,FIU
L28IS	MICC	10/01/99	24	0.142	75	SERP,FIU

